

Applied Science of
Yagya for
Health & Environment

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Publishers:

Shri Vedmata Gayatri Trust (TMD)
Shantikunj, Haridwar



Revised Edition: 2011

Price: Rs.33/-

Revised Edition:
2011

ISBN: 81-8255-042-4

Price: Rs.33/-

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Published by:

Shri Vedmata Gayatri Trust (TMD)
Gayatrinagar, Shrirampuram
Shantikunj, Haridwar (Uttarakhand)
INDIA 249411

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Abstract

Yagya-therapy is an ancient method of herbal/plant medicinal treatment derived from the Vedic texts. In yagya natural herbal/plant products are processed in fire and medicinal vapors, gases and phytochemicals are released. It is basically an inhalation therapy that promises wider healing applications without any risk of side effects or drug-resistance. It is cost effective and natural and provides added benefits of purifying the environment and balancing the eco-system.

This book aims to introduce the readers to the ancient knowledge and modern scientific findings on yagya ('fire-ritual') with special focus on preventive and therapeutic applications for holistic healthcare. It also presents detailed information and guidelines for yagya-therapy of several diseases and disorders — including the dreaded ones like Cancer and AIDS — that have challenged the world today.

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List of available popular English and Botanical names of Herbs/Plant Medicines.

Yagya Therapy — The Key to Holistic Health

Yagya Therapy is an ethno-botanical inhalation therapy derived from the ancient Medical Science of India^[1, 2]. The multiple benefits of *yagya* experiments include purification of atmospheric environment and healthy fertilization of the soil. Scientific validity and technical evaluation of this Vedic ritual in recent times indicate its enormous potential for reducing air-water pollution and for agricultural and therapeutic applications^[4-13, 17-21].

1.1. Vedic Importance of *Yagya*:

The philosophy and deeper science of Gayatri (*Gāyatrī*) and *Yagya* (*Yajña*) constitute the foundations of the Indian Culture and its divine value system bequeathed for global welfare by the Vedic Wisdom. *Yagya* symbolizes noble deeds and altruistic mode of life that generates and expands benevolence in all forms of Nature. In simple terms, it means giving, distributing and thus expanding the good. The oceans evaporate their water to form clouds; the clouds shower distilled water in return..., everything in the natural systems works on this principle

of *yagya*. In fact, the cycle of Nature is itself a cosmic *yagya*, which is essential for sustenance of the natural rhythm of the universe and existence and maintenance of the animate and inanimate worlds.

The paramount importance of *yagya* is greatly hailed in the Vedas and ancient texts. *Yagya* is referred in the Vedas as the nucleus process of manifestation of Nature. For example, the hymn (9|15|14) of the Atharva Veda remarks –

Ayam Yajña Viśvasya Bhuvanasya Nābhiḥ |

Lord Krishna says in the Gita (3|10) —

Sahayajnāḥ Prajāḥ Sraṣṭā Purovācha Prajā patih |
Anena Prasaviṣyadhvameṣa Voastviṣṭa Kāmadhuk ||

Meaning: Before the existence of the cosmos, Prajapati Brahma – the supreme creator had originated *yagya* and commenced the process of generation and expansion of cosmic powers and their limitless expressions resulting in the creation and manifestation of Nature.

The Yajur-Veda contains the knowledge of the principles and methods of performing *yagyas* as part of spiritual and scientific experiments for global welfare. The Sam-Veda focuses on the musical chanting patterns of the *mantras*. Chanting of a Vedic Mantra with meditation is also a *yagya*, called *japa-yagya*, which corresponds to mental oblation in the deeper core of emotions.

The Atharv-Veda guides therapeutic benefits of *yagya*.

1.2 Physical Procedure of *Yagya*:

As a fire-ritual process, *yagya* is a scientific experiment in which special herbal/plant medicinal preparations (*havan sāmagrī*) are offered in the fire of medicinal woods ignited in a specially designed inverted

pyramid shaped altar, pit or container. This fire-pit or altar is called *agni-kunḍa* or *yagya-kunḍa*.

Referring to this fire-ritual – *yagya*, the holy Gita says –

Annādbhavanti Bhūtāni Parjanyaḍanna Sambhavaḥ |
Yajñādbhavati Parjanyo Yajñaḥ Karma Samudbhavaḥ ||

–Gita (3|14)

Meaning: All creatures survive on food produced by food-crops and vegetation. *Yagyas* performed and practised by prescribed methods bring rainfall, crops and hence maintain existence of life.

This fire-ritual form of *yagya* is described in the Vedic texts as a powerful source for vitality and holistic health. The following hymn in the Atharva Veda cites *yagya* as a life-saving remedy for the patients suffering an acute state of a disease and lying near the deathbed.

Yadi Kṣitāyuryadi Vāpareto Yadi, Mṛatyorantikam Nīta Eva |
Tamā Harāmi Nīranterūpasthād, Syarṣa Mena Śataśārādāya ||

–Atharv. (3|11|2)

Hereafter, in this book by *yagya* we shall mean this fire-ritual form of *yagya*. It is also called *havana* or *homaṁ* while performed at a small scale, say, everyday at home.

In the Vedas and Vedic scriptures like the Brahmanas and Ayurvedic texts – especially in “Charak Sanhita”, “Bhavprakash” and “Naighantu”, *yagya* is regarded as the sustainer of all living beings and hence it is also referred as *bhujyu* and provider of safety and security to life. It is mentioned here that therapeutic *yagyas* (called *bhaiṣajya yagyas* in Ayurveda) should be performed to eliminate the effect of contagious/ epidemic diseases, which usually occur with the change of seasons.

As a broad guideline on selection of plant medicines, these texts indicate

Suraphīṇi Supuṣṭeścha Kārakāṇi Sitādikam |

Dravyārāmādāya Juhuyāchchaturtham Roganāśakam ||

Meaning: Four types of plant substances should be used (in synergistic proportions) in therapeutic *yagyas*. These are — substances, which counter and destroy the cause of ailment, which produce good aroma, which are nourishing, and, which are naturally sweetish/soothing.

These therapeutic *yagyas*, not only destroy the disease-causing bacteria, viruses, etc, but also remove pollution in the surround area and purify the atmospheric environment.

1.3 Scientific Basis:

There are two basic energy systems in the physical world — heat and sound. In the process of *yagya* these two energies — namely, the heat from *yagya*-fire, and the distinct sound waves generated by the rhythmic chanting of the *Gayatri Mantra* and other Vedic Mantras — combine to achieve the desired physical, psychological and spiritual benefits.

The specific shape and size of the *agni-kunda* (fire-pit) the arrangement of wood pieces in it and the time-frequency and amount of *havan sāmagrī* account for controlled chemical processing in the fire and lead to sublimation, chemical conversion or transformation into vapor/gaseous/colloidal phase of the herbal/plant medicinal preparation and release of medicinal phytochemicals^[7-10, 17].

It is a well-known fact that the substances when taken in their vapor or gaseous form through the nostrils have much greater efficacy – many hundred times more. And, the same quantity of substance can benefit a much larger population. It is a common experience that if an individual eats a red chilly then that person alone would be sneezing under its influence. But if the same chilly is put in the fire then the

resultant air can cause many hundred people to sneeze^[5]. This example illustrates how *yagya* magnifies the advantages of the medicinal components of plants and other healthy nutritional substances.

The controlled decomposition and transformation of specific substances in the *yagya*-fire is a scientific method of sublization of matter, its conversion in energy and consequent expansion of its potentials and positive effects. The electromagnetic waves generated thereby compound with the sonic signals encoded in the *mantras* and help in intensifying and transmitting the desired benefits of *yagya* in the surroundings atmosphere and far beyond.

1.3.1 Synergistic Inhalation Therapy:

The process of *yagya* for the treatment of physical and mental diseases/disorders comprises of decomposition and transformation of *havan sāmāgrī* and release of healthy phytochemicals and medicinal vapor/gases/colloids. The medicinal *samidhās* (wood pieces) and healthy nutritional substances offered in the fire of *yagya* are also synergistically processed to induce increased vigor and immunity^[2, 4, 10].

The medicinal and nourishing output of the *yagya* are naturally inhaled through the nose (via deep breathing) and mouth (via rhythmic chanting of *mantras*). Moreover, because of being spread in the surrounding air the vaporized substances also enter the body through the skin pores. Doing *yagya* in the early morning – around two hours before and after sunrise time – at a neat and open place is most effective as the surrounding atmosphere is relatively clear and the breeze is fresh and free of pollutants.

Further, the thermal and associated aerodynamic characteristics of the base-fire cause the sublimated/sublized/vaporized substances to traverse and diffuse everywhere in the surroundings where *yagya* is being

conducted. Thus, because of the anti-bacterial properties of the herbs commonly used in it, *yagya* also purifies the environment.

As per the ancient Indian texts, if *yagyas* were performed regularly at the same place, after few weeks the surrounding environment would become purer and remain so almost the entire day. Still, early morning time gives the best effects in terms of cleanliness of our skin (soon after bathing), metabolic state of our body, best impact of sunlight, etc.

Yagya also serves as an excellent means of preventive healthcare. It is an easy and inexpensive mode of treatment provided the patient spends some time — say total about 30 to 40 minutes every day or so, on an average.

Yagya-therapy can be safely practised along with oral or intravenous intake of modern and/or other kinds of authentic medicines.

1.3.2 Not a ‘Smoke-Treatment’:

People usually have an impression that smoke produced during the fire-ritual kills the bacteria so the effect of *yagya* is nothing but what could be achieved by burning the wood or dry cow dung. However, scientific experiments^[10,12] conducted to study the effects – of (a) proper *yagya*, (b) burning only wood or cow dung, and (c) control (no treatment) — upon samples of same *Mycobacterium* culture, incubated in identical conditions, show significant difference.

The effect of *yagya* is found consistent and remarkably better (about 75% bacterial growth reduction in 45 minutes exposure, on an average) than the other two. The effect of burning wood/cow-dung is inconsistent; in some samples, it shows slight reduction (at the most 15%) as compared to the controls, while in some others no decrease

in bacterial count is noted. Similar results are obtained in experiments on air-born bacteria and microflora^[19-20].

1.3.3 *Yagya* and Atmospheric Environment:

Recent research^[9, 18-20] on assessment of *yagya* effects in reducing air-borne bacteria and pollutants shows good potential of *yagya* in controlling air and water pollution. As per the Vedic scriptural descriptions, grand (large-scale) *yagyas* performed on regular basis for a certain time-period help maintain the natural equilibrium in the various components of the atmospheric environment. The effects of *yagya* help conserve the eco-system, purify the atmosphere, kill and destroy many disease-causing microbes and also remove the air, water and soil pollution.

Yagya is a scientific process through which the balance of CO₂ and O₂ is maintained in the atmosphere. There are various cycles in the nature such as the seasonal cycle, animal cycle, solar cycle, lunar cycle, rain cycle etc. In Rig-Veda (10|90|6) and Yajur-Veda (31|14), these cycles have been termed as natural *yagyas*, which are being performed continuously in a self-organized manner.

In the allegoric style some ancient texts cite that the Sun God is made happy through *yagya* and in turn He blesses the mother earth through the rains, which are formed in the *dyu-loka* (upper layers of the Stratosphere and beyond). As per the scriptural descriptions, clouds can be generated through assimilation of the *yagya*-output. These also attract vapor-particles in air and thus lead to desired rainfall. The scriptures therefore sing paeans in praise of *yagya*:

For Healthy rainfall:

Bhumim Parjanya Jivanti, Divam Jivantyagnayah |

–Rig-Veda (1|164|51)

For Agriculture:

Kṛaśīścha Me Vṛaśīścha Me Yagyen Kalpatam |

—Yajurveda (18|9)

The hymns nos. 1 to 29 in chapter 18 of the Yajur Veda describe *yagya* as the basis of good agriculture, physical, mental and spiritual and intellectual progress, as a source of prosperity in the botanical kingdom (flora and fauna) of the earth, prosperity in vegetables, fruits and cereals, as a protector of good health and pure environment.

In Chhandogya Upanishada, *yagya* is described as the best remedy to eliminate subtle environmental and atmospheric pollution. For instance, the following hymns say that *yagya* removes all the impurities and pollution, purifies everything and enhances vital energy.

Aiśa hi vai yagyo yo ayam pāvate |

Idam sarvaṁ punāti, tasmadev aiva yagyaḥ ||

— Chhan. Up. (4|16|1)

Yagyo Vā Avati | —Tad. Bra. (6|4|5);

Yagyo Hi Sarvāni Bhūtāni Bhunakti | —Shatpath Bra. (9|4|1|11);

Bhujyuḥ Suparṇo Yagyaḥ | —Yajur Veda (18|42) ;

Amam Vai Yagyo Yoayam Pāvate | —Aet. Bra. (5|33) ;

Bhaiṣajya Yagya Vā Aete, Ritu Sandhiṣu Prayujyante,

Ritu Sandhiṣu Pai Yyādhirjayate | — Gopath Bra. U. (1|19).

1.3.4 Recent Research:

The duration of *yagya*, selection of *mantras* and the type of herbal/plant medicinal preparation (*havan sāmagrī*) to be used in it depend upon the nature and extent of the disease. As per the sagacious guidance of Pandit Shriram Sharma Acharya, the thorough studies on Ayurvedic

Medicines at Shantikunj, Hardwar and the research experiments and clinical trials in the *yagyopathy* lab of its research wing – Brahmvarchas Shodh Sansthan, Hardwar, have helped scientific revival of this ancient inhalation therapy.

In view of the scriptural citations and scientific affirmation by clinical trials^[11], case studies^[4,8], laboratory tests^[10,12] and pharmaco-kinetic analysis^[6], *yagya*-therapy assumes great significance in today's world where we are facing threatening challenges of ever-new viral infections, psychosomatic disorders, dreaded diseases like cancer and AIDS and unabated air-water-soil pollutions.

This book presents some simple *yagya*-based remedies against some diseases for which the therapeutic effects have been observed in the herbal laboratories of the Brahmvarchas Research Centre, and Dev Sanskriti University Shantikunj, Hardwar. Our recent research findings on other scientific aspects are also outlined.

1.4 Organization of the Book:

This book aims to introduce a wider class of readers to the preventive and curative applications of *yagya*-therapy (*yagyopathy*). We focus mainly at the method and materials of *yagya*-therapy prescribed to heal or restrain several of the common ailments and psychosomatic disorders that have posed a challenge before mankind.

In the successive Chapters we present necessary introduction and information on the preparation of plant medicinal powders and the procedures of *yagya* for specific health benefits. Findings of recent scientific research on chemical and pharmacological aspects of *yagya*-therapy, its scope in psychological strengthening and impact on air pollution are outlined in the last Chapter.

Here, we begin with brief guidelines on the most common type of *yagya* which is suitable for everyone and experiments on which can be and should be done everyday. The following two Sections must be read before proceeding to experiment for any specific remedial application.

The readers who are not familiar with the procedure of doing *yagya* or who have never participated in any are advised to attend some of the *yagyas* organized by Gayatri Pariwar in their city/locality. They may also visit Shantikunj, Hardwar for added benefits of living near the holy Ganges and in a spiritually vibrant ambience.

1.5 Essential Guidelines for *Yagya*:

Specific types of wood from medicinal trees (as described in Ayurveda) are kindled in special types of *agni-kunḍa*.

Clean and dry woods of *Pīpala* (*Ficus religiosa* Linn), Mango, *Śamī* (*Propolis Spicigera*), *Devdāra* (*Cedrys Libani*), and *Dhāka/Palāśa* (*Butea Frondosa*) trees are usually prescribed for *yagya*-fire.

The shapes of the fire-pit (*agni-kunḍa*) are selected from those described in the Vedic scriptures. Usually their internal structure is that of inverted pyramid, which amounts to controlled variation of temperature and optimal dissipation of energy. The shapes are selected according to the type and purpose of *yagya*. The size depends upon how many people are supposed to perform *yagya* simultaneously for how long? And how big an area is to be covered, for what application, etc.

Apart from the inverted pyramid shape, some other special symmetric geometrical designs are also used according to the kind of energy fields and the cosmic currents required to be generated by the *yagya*. Specific types of *kunḍas* are recommended for different kinds of *yagyas*. **Figure1** shows the 2-dimensional pictures of some standard types.

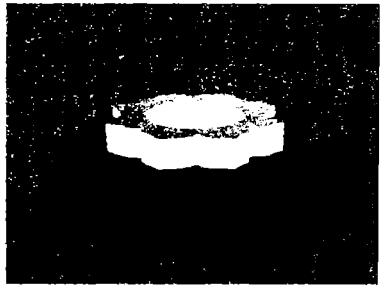
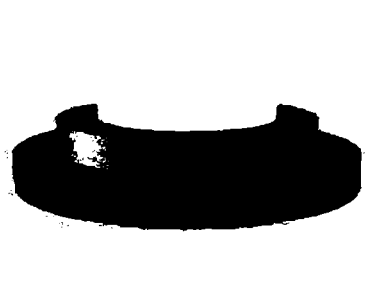
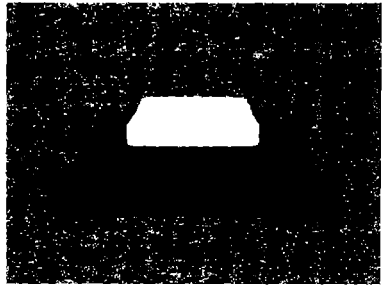
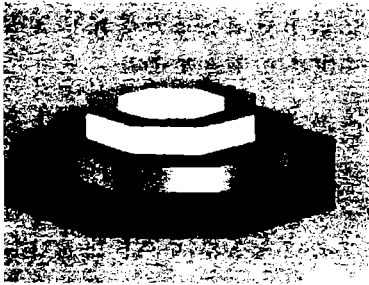
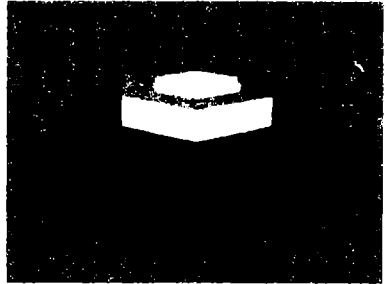
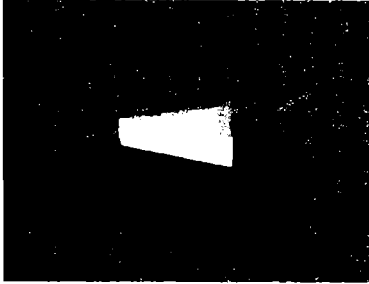
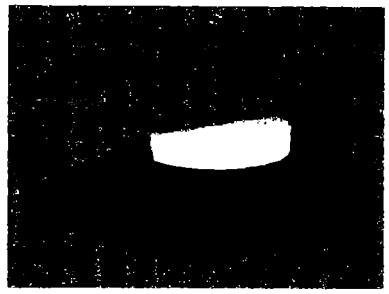
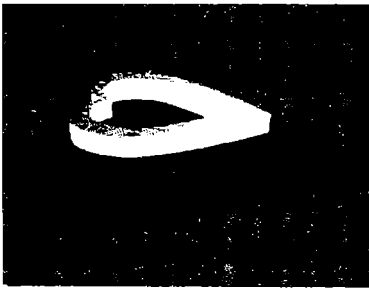


Figure 1: Sketches of some standard types of *yagya-kundās*

The wood used in *yagya* should be dry, free from dust, dirt, insects and worms. It is cut into small sticks of varying sizes called *samidhās* according to the size of the fire-pit. The number of these sticks is kept to the minimum required for continuous yellow-colored bright flame rising little above the fire-pit. The *samidhās* are so arranged in the fire-pit that slow but continuous combustion takes place with controlled air-supply in the bottom as well as the intermediate layers.

1.5.1 The Method:

Some of the books listed in the references give necessary introduction^[3] and details^[1, 2] together with syllabic structure and meaning of relevant *mantras* (hymns) chanted during *yagya*.

For best effects, *yagya* with prescribed *havan sāmāgrī* (coarse powder like preparation of herbal/plant-substances) should be performed in the early morning, usually, for sometime during two-three hrs time interval around sunrise time.

People participating in *yagya* should sit around the fire-pit in *sukhasana* (legs folded round) on cotton-cloth or jute sheets with erect spinal cord.

Yagya begins with some invocation prayers and ignition of fire with the help of pure *ghee* (clarified butter prepared from cow's milk) and small piece of camphor, while chanting some specific *mantras*.

During the *yagya*, measured quantities (called *āhutis*) of specific botanical powder, called *havan sāmāgrī*, are offered in the *yagya*-fire by each participant with collective rhythmic chanting of prescribed Vedic *mantra(s)*. This cycle is continued for specific time-interval. The *havan sāmāgrī*, is prepared from prescribed herbal/plant medicines together with some nutritious substances and naturally fragrant substances.

Oblations (*āhutis*) of this preparation are made in the *yagya*-fire with rhythmic loud chanting of the *Gayatri Mantra*, or any other prescribed Vedic hymn. On an average, the *āhutis* (made with the sound of “*swāhā*” at the end of the *mantra*) should continue at least for 20-25 minutes every day. Minimum 24 *āhutis* should be offered in daily *yagya*.

After offering each *āhuti*, one should say “*Idam, Idam Na Mam*”, replacing “....” by the name of the divine focus of the *mantra* chanted during the *yagya*. (This is illustrated for three mantras cited underneath). This implies an altruistic feeling that the offering is for the benefit of the world through *yagya* and not for ‘my’ (the doer’s) selfish benefits.

Upon Completion of *Yagya*:

Upon completion of *āhutis*, deep breathing exercise or *prāṇākarṣaṇa prāṇāyāma*^[16] should be practised for at least 10 minutes sitting near the *yagya-kunḍa*.

For Patients Unable to Sit:

If the patient is too sick or weak to sit and participate in the *yagya*, he/she may lie down nearby. Or, this therapeutic experiment may be performed in or near his/her room. This way the natural medicinal effect of *yagya* would reach his blood stream through inhalation and his skin pours. This effect will get more intense day by day. The patient should remain in this atmosphere for as long stretch of time as possible.

1.5.2 The Main *Mantras*:

Most often, one of the following mantras is prescribed for daily experiments on *yagya*.

The Gayatri Mantra:

Om Bhurbuvaḥ Swaḥ, Tatsaviturvareṇyam

Bhargo Devasya Dhīmahi, Dhiyo Yo Naḥ Prachodayāt ||

This great mantra is the genesis all Vedas. It's a universal prayer of all divine powers. The super-science and philosophy of mental, and spiritual evolution through *mantra sādhanās* revolves around this preeminent *mantra*.

If *yagya* is to be performed with the chants of this *mantra*, then after chanting this mantra, each participant utters “*swāhā*” and offers the *āhuti* — small measured amount of *havan sāmāgrī*. Then he/she says, “*Idam Gāyatrāyā Idam Na Mam*”. After a deep breath, again the *Gayatri Mantra* is chanted, the *āhuti* is offered and so on.....

The Surya Gayatri Mantra:

*Om Bhurbuvaḥ Swaḥ, Bhāskarāya Vidmahe, Diwākarāya
Dhīmahi, Tannaḥ Suryaḥ Prachodayāt ||*

This mantra is predominantly prescribed for therapeutic *yagyas*, as the Sun (*Surya*) happens to be the key source of vital energy and life on this earth.

The method remains same as described above except that the “*Surya Gayatri Mantra*” is chanted in place of the “*Gayatri Mantra*” and after offering the *āhuti* with chants of “*swāhā*”, the participants say — “*Idam Sūryāya Idam Na Mam*”

The Chandra Gayatri Mantra:

*Om Bhurbuvaḥ Swaḥ, Ksīra Putrāya Vidmahe, Amṛata Tatvāya
Dhīmahi, Tannaḥ Chandraḥ Prachodayāt ||*

Because of correlation of lunar effects with psychiatric disorders and because of the soothing calmness and cooling radiation of the Moon (*Chandra*) on the mind, this *mantra* is recommended for *yagya*-therapy of mental/psychological problems.

The method remains same as described above except that the “*Chandra Gayatri Mantra*” is chanted in place of the “*Gayatri Mantra*” and after offering the *āhuti* with chants of “*swāhā*”, the participants say — “*Idam Chandrāya Idam Na Mam*”

1.5.3 Base-Preparation for Offerings: Common *Havan Sāmagrī*

This preparation of natural products or plant-substances, referred here as ‘common *havan sāmagrī*’, is used in *yagya* (*havan* or *homam*) that should be done every day, as a preventive measure for sustenance of general health and vigor and for purification of the surrounding atmospheric environment. This serves as the base-preparation, which is mixed with special preparations for therapeutic purposes.

The common *havan sāmagrī* consists of *Agar* (*Aquilaria Agallocha*), *Aśwagandhā* (*Dunal*), red *Chandan* (*Pterocarpus santalinus* Linn), white *Chandan* – sandalwood powder (*Santalum album* Linn), *Devdāra* (*Cedrus Deodara*), *Giloya* (*Cordifolia*), *Gūgala* (*Commiphora Mukul*), and *Tagar* (*Valeriana Wallichii*). The above constituents are mixed in equal proportions.

Soothing aromatic substances – *Jāyphala* (*Myristica Fragrans* HOUTT), *Lawang* (*Withania Somnifera* *Syzygium Aromaticum*) are also mixed in the above; the amount of each of these is about one-fourth of that of *Aśwagandhā*.

Substances with healthy constituents like *ghee* (clarified butter) of cow’s milk in about 5-10% of the above preparation with about 1% each of Barley (*Hordeum Valgar*), *Tila* (*Sesamum indicum*), together with sugar and *Munnakā* —big resins (*Vitis Vinifera*) small quantities (~1% of total quantity of the *havan sāmagrī*) are also added in the above to make what we is referred here as common *havan sāmagrī*.

Medicinal Preparation for Therapeutic *Yagyas*:

Unless otherwise mentioned, the preparation to be used in a therapeutic *yagya* consists of the equal proportions of the 'common *havan sāmāgrī*' and the 'special *havan sāmāgrī*'. Constituents of the latter for different kinds of diseases/disorders are described in the respective sections of the successive chapters.

Botanical and available English names of all plants/herbs are listed in the Appendix.

These preparations if kept carefully in airtight containers at a dry place, can be used for about two months time.

1.6 Additional Therapeutic Support:

Prescribed doses of the powder or decoction of some or all of the herbs/plant medicines used in the special *havan sāmāgrī* may also be taken as part of *yagya*-therapy. Some prescriptions of this sort are described in the successive chapters. However, these should be followed only as per the recommendations of the *vaidya* (Ayurvedic doctor).

The *bhasma* (ash) of *yagya* also has medicinal value, as it contains compounds/products of synergistic reactions of the plant medicines that are processed in the *yagya*-fire. The coarse ash left in the fire-pit (*agni-kunḍa*) is collected after the *yagya* when the fire extinguishes and it cools down. The ash is then filtered. The finer powder thus obtained is called *yagya-bhasma*.

In agricultural applications, specific kinds of *havan sāmāgrī* are used for specific kind of crops; the *yagya* is performed in the field and the *yagya-bhasma* is sprayed in the soil like a fertilizer. Its spray on the tiny samplings preserves the crop from pests.

For faster therapeutic effects on humans, the *yagya-bhasma* may be rubbed on different parts of the body, as recommended by the *Vaidya*. In certain cases, the *Vaidyas* also prescribe eating or drinking of small amounts of this medicine.



Yagya Therapy for Diseases of Digestive System and for Blood and Skin Infections

Healthy digestive system is essential for physical and mental wellbeing. In spite of knowing this, many of us suffer from some problem or the other of the digestive system. The haphazard and stressful daily routine, wrong sleeping hours and eating habits, fried and spicy food, junk food, adulterated ready-made food-stuffs, etc are prominent causes of varieties of disorders of metabolism and ailments of the organs of digestion process. These often also give rise to blood infections, skin ailments and disturbed lipid concentrations and deficiency of vital elements of blood, etc.

Unfortunately modern medicines provide little help in this regard. Alternative therapies like Naturopathy or *Panchakarma* offer excellent support by thorough cleansing and gradual strengthening of the digestive system. However, one has to undergo these therapeutic experiments in suitable laboratories/clinics for several weeks at a stretch under thorough guidance.

Yagya-therapy is easier in this respect, as one can do *yagya* at home and enjoy the gradual improvement at a slow but consistent pace.

The patient(s) should do *yagya* every morning and evening with chants of *Surya Gayatri Mantra* using 1:1 combination of *common havan sāmāgrī* (c.f. Sec. 1.5.3 above) and the prescribed special *havan sāmāgrī*.

Patients should also observe necessary discipline of eating habits and take only freshly prepared, easy to digest food.

Special *Havan Sāmāgrī* for Healthy Digestive System:

Dry coarse powder of the following in equal proportion. The constituents of special *havan sāmāgrī* for different ailments and deficiency of digestive system are presented below. One should also eat one teaspoon each in the morning and evening of a fine (filtered through a cloth) powder of this plant-medicinal preparation with water or as indicated.

To Get Rid of Indigestion, Constipation etc:

Amaltāsa-leaves, *Haritaki* (*Haraḍa*), white *Jīrā*, *Kālijīrī*,
Nāgakeśara, *Pudinā*, *Tālisa-patra*, *Tejapatra*.

Prepare a finely filtered (through a cloth) powder of the above. Patient should take one teaspoon each in the morning and evening with water or buttermilk.

For Treatment of Vomiting:

DhāKa (*Palāśa*)-seeds or dried fruit, *Dhāya*-seed, *Giloya*, Lemmon-dry or Lemmon-root, Mango-seed, *Nīsotha*, *Pīpala*, *chhoṭī* (small) *Pippalī*, *Priyāngu*, *Vāyaviḍanga*.

Prepare a finely filtered (through a cloth) powder of the above. Patient should take one teaspoon each in the morning and evening with honey.

To Control Loose-motions or Diarrhea:

Ajamoda, Atīsa, Bael-pulp/kernel, Chavya, Chitraka, Chhuhāra, Dālachīnī, Īsapgola, white Jīrā, Maulśrī, Sonṭha, Tālmakhānā.

Prepare a finely filtered (through a cloth) powder of the above and take one teaspoon each in the morning and evening with curd or buttermilk.

Use of milk, sweets made up of milk, fried food should be strictly avoided.

To Restrain the Effect of Cholera:

Camphor, Chitraka, Dhaniyā, Kāsanī, Saunfa,

One teaspoon each in the morning and evening of finely filtered (through a cloth) powder of this preparation should also be given (with water) to the patient.

To Control Dysentery:

Anāradānā, Kaṭīrā, Mango-seed, Maroḍaphalī, Pudinā.

For faster relief, one teaspoon each in the morning and evening of finely filtered (through a cloth) powder of this preparation should also be given (with water) to the patient.

For Treatment of Weak or Ailing Liver:

Apāmārga, Bhṛangarāja, Bhui ānvalā, Blackberry-bark skin, Kālamedha, Kuṭakī, Makoya, Pippalī-mūla, Punarnavā, Rāi, Śālamalī (Semar) -flower, Śarpunkhā.

One teaspoon each in the morning and evening of finely filtered (through a cloth) powder of this preparation should also be given (with water) to the patient.

To Allay Stomach problems:

Ālūbukhārā, Chavya, Chitraka, Dālachīnī, chhoṭī (small) Pippalī, Tālisa-patra.

One teaspoon each in the morning and evening of finely filtered (through a cloth) powder of this preparation should also be given (with water) to the patient.

For Relief from Piles and related problems:

Chronic constipation, amoebiasis, sitting on foam or synthetic material for several hours at a stretch every day, hereditary deficiencies, etc are common causes of this painful ailment. Alternate and complementary medicines and change in diet and work-habits are often found more effective than modern medicines. The following are prescribed constituents of special *havan sāmagrī* for *yagya*-based remedy of both, the internal haemorrhoids or external thrombotic types of piles.

Dhamāsā, Dāru Haldi, Gūlara-flower, Hāūbera, Jāvitri, Kamala-Keśara, Nāgakeśara, Nimonī, Raddish-seeds.

A finely filtered (through a cloth) powder of the above should also be prepared. Patient should take one teaspoon each in the morning and evening with honey.

Inhaling the fragrance spread by burning the *dhūpa* (thick incense-stick) of *Aśwagandhā*, big *Kaṇṭakārī*, *Nirguṇḍī*, *Pippalī* helps allay the suffering of acute pain of piles.

Food-Poison/Toxic Problems:

In spite of instant emergency treatment in the hospital, it takes time to normalize the healthy functioning of the digestive system after food poisoning. *Yagya*-therapy provides necessary relief and also strengthens the system in a natural way. Constituents of special *havan sāmagrī* for this purpose are:

Apāmārga, red *Chandana*, *Chaulāī*-leafs, *Dāru Haldi*, *Indrāyaṇa-mūla*, *Karanja*-pulp/kernel, *Vana Tulasī*-seeds, *Vinaulā*-pulp/ kernel. One teaspoon each in the morning and evening of finely filtered (through a cloth) powder of this preparation should also be given with water to the patient.

Blood Infection:

Yagya being an inhalation therapy helps pulmonary administration of the desired medicines and hence has a significant potential to purify the blood at a rapid rate. To benefit from this the patient(s) should do *yagya* every morning and evening with chants of *Surya Gayatri Mantra* using 1:1 combination of *common havan sāmagrī* and the following special *havan sāmagrī*.

Special *Havan Sāmagrī*:

Dry coarse powder of the following taken in equal proportion.

Bakuchī, Camphor, *Chakramarda*-seeds, *Chopachīnī*, *śītal Chīnī*, *Dāru Haldi*, *Dhamāsā*, Jasmine-leafs, *Jāwāsā*, *Kālamedha*, *Khādira*, *Kūṭaja*-bark skin, *Kuṭakī*, *Majīṭha*, *Nīma*-flower or leafs, *Rāsnā*, *Sārīvā*, *Śarpunkhā*, *Vāsā*.

Also prepare a finely filtered powder of the above and take one teaspoon each in the morning and evening with water. Strictly avoid eating food-items that are sour, fried and lavish food-items.

Skin Infections:

Common types of skin diseases are ringworm, shingles, itch, eczema, and rashes due to allergy etc.

These kinds of infections mostly occur due to improper cleaning of the skin or due to blood-infections. Therefore the *havan sāmagrī* is quite similar to that for treatment of blood-infection.

As a remedy against these problems the patient as well as those vulnerable to his/her infection should do *yagya* every morning and evening with chants of *Surya Gayatri Mantra* using 1:1 combination of *common havan sāmagrī* and the following special *havan sāmagrī*.

Special *Havan Sāmagrī*:

Dry coarse powder of the following taken in equal proportion.

Camphor, *Chakramarda*-seeds, *Chopachīnī*, *śītal* (cooling) *Chīnī*, *Dāru Haldi*, Fenugreek seeds, Jasmine-leafs, *Meñhadī* (Myrtle)-leafs, *Nīma*-flower or leafs, *Padmākha*.

Also prepare a finely filtered powder of this special *havan sāmagrī* and take one teaspoon each in the morning and evening in water. As in the case of blood-infection, strictly avoid eating natural products or prepared food-items that are sour, fried and lavish food-items.



Yagya-based Cure of Malaria, Viral & Other Kinds of Fevers

In fact, not only the bacterial or viruses but also the dirt (of undigested or degraded food-stuff) deposited in the stomach and intestines, is also a major cause of varieties of ailments that are manifested in different kinds of fevers. Therefore, light food and substantial water intake are also necessary remedial disciplines that should be followed by the patient. Balanced diet, sufficient water intake and regular physical exercises are best preventive measures.

Yagya Therapy:

The general guidelines about the duration and method of doing *yagya* are the same as described in Chapter 1 (Sec. 1.5) above.

In each of the following cases, *yagya* should be done every morning with chants of *Surya Gayatri Mantra* and using 1:1 combination of *common havan sāmagrī* and the prescribed special *havan sāmagrī*.

Special *Havan Sāmagrī*:

Dry coarse powder of the following taken in equal proportion. The prescribed constituents are as stated in the following.

In Addition:

Two to three tablespoons, or as prescribed by the *Vaidya*, of fresh decoction of this medicinal preparation should be given to the patient every morning and evening. If that is not possible then a finely filtered (through a thin cloth) powder of the above should be made and patient should be given one/two teaspoon, or as prescribed by the *Vaidya*, each in the morning and evening with lukewarm water.

To Cure Fever Due to Excessive Heat in the Body:

Ānvalā, *Banaphsā*, *Dhaniyā*, *Kāsani*, *Khasa*, *Khasakhas* (Poppy seeds), wild Rose-flower, *Saunfa*.

For faster recovery, prepare a finely filtered powder of the special *havan sāmagrī*. The patient should take prescribed doses of this medicine in the morning and evening with water.

To Cure Fever due to Influenza:

It frequently occurs in the monsoon season and usually when one suffers common cold and cough. As a treatment and also as a precautionary measure, the patients as well as others in his house or near neighborhood should do *yagya* every morning and evening.

Prescribed constituents of special *havan sāmagrī* are:

Artemisia, Basil Leafs, *Bhārangi*, *Bhui ānvalā*, *Chirāyata*, *Durvā*, *Kaṇṭakārī*, *Kaṭu*, *Kālamedha*, *Kāsani*, *Kuṭakī*, *Mulaiṭhī*, *Nīma*-bark skin, *Paṭola-patra*, *Posta*, *Saptaparnī*, *Śarpunkhā*, *Vāsā*.

To Cure Simple Fever:

Basil-wood, Basil-seeds, red *Chandana*, *Chirāyata*, *Giloya*, red *Kanera*-flowers, *Karanja*-kernel, *Kuṭakī*, *Mulaiṭhī*, *Nāgarmothā*, *Nīma*-bark skin, *Paṭola-patra*.

For Treatment of Mild Malaria (with symptoms of Flu):

Basil-leafs, red *Chandana*, *Chitraka*, *Chirāyata*, *Giloya*, *Karanja*-pulp/kernel, *Kālamedha*, *Kūṭaja*-bark skin, *Kuṭakī*, *Nāgarmothā*, *Nīma*-bark skin or *Nīma* furit-pulp, *Nīma*-leafs or flower, *Paṭola-patra*.

Remedy of Malaria:

In this type of malaria the patients feels shivering chill before getting high fever. It usually occurs on alternate days, or after every two-days. The constituents of special *havan sāmagrī* for *yagya*-therapy of this high-risk disease caused by specific types of mosquitoes are:

Adūsā, *Amaltāsa*, *Bacha*, Basil-leafs, red *Chandana*, *Chirāyata*, *Dāru Haldi*, *Devadāra*, *Giloya*, *Karanja*-kernel, *Kālamedha*, *Khasa*, *Paṭola-patra*, *Puṣṭiparnī*, *Śāliparnī*, *Tejapatra*.

To Allay the Severity of Dengue and Viral Fever:

Dengue is an acute febrile disease, which is usually also called 'breakbone' fever. It is caused by four closely related virus *serotypes* of family *Flaviviridae* found in tropical climate. It is transmitted to humans by the *Aedes aegypti* or *Aedes albopictus* mosquito, which feed during the day. Unlike malaria, dengue is just as prevalent in the urban districts of its range as in rural areas. If left untreated, it could be fatal because of sudden loss in blood-platelet counts. *Yagya*-therapy provides excellent support in fast recovery along with other prescribed medication.

The constituents of special *havan sāmagrī* for *yagya*-therapy of this high-risk disease are:

Artemisia anua, *Chirāyata*, *Giloya*, *Karanja*-kernel, *Kālamedha*, *Kuṭakī*, *Mulaiṭhī*, *Nimbolī*, *Paṭola-patra*, *Saptaparnī*, *Sārīvā*, *Śarpunkhā*, *kapūra-Tulasī*, *Vijayā*.

Daṇḍaka Jwara

(due to Contagious Ailment):

Prescribed constituents of special *havan sāmagrī* to allay this type of fevers are:

Artemisia anua, *Chirāyata*, *Giloya*, *Karanja*-kernel, *Kālamedha*, *Kuṭakī*, *Nimbolī*, *Paṭola-patra*, *kapūra-Tulasī*.

To Allay *Viṣama Jwara*

(Frequent Fevers with different prior symptoms):

Fevers which occur randomly sometimes due to cold, sometimes due to heat, some times high, sometimes moderate, etc are called *Viṣama Jwara* in Ayurveda.

The following constituents are used in equally proportion in the dry coarse powder of medicinal preparation for *yagya* therapy of this type of fevers.

Artemisia anua, Basil-leafs, *Chirāyata*, *Giloya*, *Karanja*-kernel, *Kālamedha*, *Kuṭakī*, *Nāgarmothā*, *Nimbolī*, *Nīma*-bark skin, *Paṭola-patra*, *Pāḍha*-root, *Sahadevī*, *kapūra-Tulasī*.

Special *Havan Sāmagrī* to Heal Fevers of Typhoid/ Paratyphoid:

Chaulāī-root, *Giloya*, *baḍī* (big) *Ilāyachī*, *Indrajau*, black *Jīrā*, *Mulaiṭhī*, *Nāgarmothā*, *Netrabālā*, *Nimbolī*, *Paṭola-patra*, *Trāyamāṇa*, *Vāsā*.

Special *Havan Sāmagrī* to Heal *Jirṇa Jwara* (Chronic Fever or Fever due to acute weakness):

Artemisia, Aśwagandhā, Basil-leafs, Chirāyata, Giloya, Indrajau, Jāwāsā, Kālamedha, Kharaiṭī, Kuṭakī, Mulaiṭhī, Munnakā, Nāgarmothā, Netrabālā, Nīma-bark skin, Paṭola-patra, Sugandhabālā, Trāyamāṇa.



Yagya Therapy to Cure Cancer

According to the scholars of ancient Ayurveda texts, there are hundred and eight prominent nuclei that are richest sources and repositories of *prāṇa* (vital spiritual energy) inside the human body. Dysfunctioning of any of these may lead to immediate death. Blockage or disturbance in the flow of *prāṇa* in any of these deep “*marma sthānas*” is said to be the cause of cancer.

Tumor is described in the 11th Chapter of “Nidan Sthan” of the noted Ayurveda scripture “Shrushut Samhita” as —

*Gātra Pradeśe Kwacita Deva Doṣāḥ, Samūrchitā
Mānsamabhpradūṣya |*

*Vṛattam Sthiram Mandarūjam Mahāntamanalpamūlam
Ciravṛaddhayapākam ||*

*Kurvanti Mānsopacayaṁ Ca Śopham, Tadarbudam Śāstravido
Vadanti |*

Vātena, Pittena, Kaphena Cāpi, Raktena Mansena Ca Medasā Vā ||

Tajjāyate Tasya Ca Lakṣaṇāni, Grantheḥ Samānāni Sadā Bhavanti |

Meaning: In some part of the body, the excess of *vata* and other *doshas* cause unusual growth, which may consist of flesh and tissues, which may or may not cause little pain but spreads deeper inside and imbalances the important *dhātus* (chemicals), and which does not burst on its own and matures slowly. This *arbuda* looks like a *granthi* (knot or hard acne) and which is a manifestation of abnormal *tridoshas* (*vāta*, *pitta* and *kapha*) and infected blood, myoplams/tissues (*majjā*), flesh or any cells. It may sometimes be caused by infections (leading to *tridosha*-imbalance and abnormal changes) in a wounded or internally injured part of the body, which malign the blood, serum, lymph, or body-tissues, etc.

Abnormal levels of *tridoshas* is also described as a cause of cancerous transformation of blood and other body functions. The scriptures give details of different manifestations of *prana* in biochemical and physiological functions. For example, a quadruplet discussing these “*marma sthanas*” in the 6th Chapter of the “*Sharira Sthanam*” part of the Ayurvedic Scripture “*Sushrut Samhita*” cites — “*soma* (water and vital solvents), *maruta* (oxygen and vital vapor and gaseous components), *tejas* (thermal and other energies), *sat*, *raj* and *tam* (three foundational elements of all creation and manifestation of Nature), and the root of life-form exist in the *marma sthānas*. Therefore, if these are severely hurt or damaged, the living body cannot survive. Impurity or blockage of natural flow of life-force in any *marma sthāna*, or related acute variation in the *tridoshas* results in cancerous state of connecting body tissues, organs or (biochemical/cellular) functions.

China is known as topmost user of native herbal medicines for the treatment of different types of cancers. Ayurvedic plant/herbal medicines are also found very effective in curing this dreaded disease. Many Ayurvedic practitioners across India who have thorough knowledge of the ancient texts and who follow the original approach

of this Vedic Science of Medicine are successful in healing the patients of cancer. The effects are best and fastest if the patients strictly follow the diet restrictions and other guidelines of the Ayurvedic doctor who has prescribed the mode of treatment after keenly examining the patient's natural constitution (*prakṛati*) and mental makeup (*manovṛatti*).

Noted among the Ayurvedic medicines are the special preparations like *rasa* and *bhasma* and the fresh herbal/plant medicines prepared in appropriate proportion from those listed below. *Hirak* (diamond) *Bhasma* and *Swarna* (gold) *Bhasma* are found to be very effective in cure of blood cancer. Other *bhasmas* effective in checking the growth of carcinomas are *Yashada Bhasma*, *Tamra* (copper) *Bhasma*, *Naga Bhasma*, *Vanga Bhasma*, *Abhraka* (talc, mica) *Bhasma* and *Shrang Bhasma*. *Mukta Pishti* and *Punarnava Mandura* lend excellent support in increasing the patient's strength and improving the response to the *bhasmas*.

Among the plant medicines and herbs, *Kanchanāra*, *Gūgala* and *Tālisa-patra* are referred as "great medicines" against all kinds of cancers. Others especially effective in killing malignant tumors are prepared with suitable combinations of — *Amarlatā*, *Asoka*, *Āka*, *Banaphasā*, *Chakramarda*, *Chitraka*, *Dāru Haldi*, *Devadāra*, *Dhamāsā*, *Durvā*, *Gorakhamuṇḍī*, *Gūgo'ṛ*, *Kanchanāra*, *Karelā* (Bitter Gourd), *Khādira*, *Kuṭha*, *Lhasuna* (Garlic), *Laudhra*, *Nayantārā* (*Sadābahāra*), *Nirviśi*, *Nīma*, *Palāśa*, *Pataranga*, *Swaranakṣīri*, *Śuddha Bhallataka*, *Śuddha Vatsanabha*, *Śyāma Tulasi* (*Black Basil*), and *Tālisa-patra*. Some of these act as immuno-modulators, some as tonics and other as anti-cancer reagents.

Dedicated cancer research laboratories the world-over are searching for alternative options in anti-cancer drugs. Herbal or plant medicines are

prominent among these. Many modern doctors in the USA and Europe have also recognized the Indian (Ayurvedic) prescription of fresh wheat-grass juice, as it helps increasing the vitality and resistance of patients. Patients who drink a glass of this every day are found to bear the side effects of chemotherapy much easily than other patients in similar state of disease and treatment. Moreover, the rate and frequency of cure is also found to be higher in such patients.

The Brahmvarchas Research Center of Shantikunj Hardwar has contributed significantly by publishing the information on this easy remedy in the Hindi magazine “Akhand Jyoti” more than a decade ago. It has also carried out innovative research focused at reinvestigation of the properties of herbs and plant medicines described in the ancient Ayurvedic texts.

In view of the fact that the methods of preparations of *bhasm-rasayanas* are difficult, tedious, time-consuming and are known adequately only to few old vaidyas of Ayurveda who are following the tradition sincerely, the Brahmvarchas Research Centre has emphasized and experimented on use of fresh juice and decoctions and *yagya*-therapy for many diseases including cancer.

Unique advantage of *yagya*-therapy, as was outlined in the earlier chapters, is that maximum amount of the medicine reaches the blood and different parts of the body directly by inhalation through the nose and mouth and by infusion through the skin-pores.

Another significant feature of this therapy is that the phyto-medicines in vapor phase and volatilized and colloidal forms kill the transformed cells and help in enhancing the immuno-modulatory and vital substances. Its added advantages of possibility of collective treatment of many patients at a time, purifying the surrounding environment and spreading the preventive effects are truly unique.

The following herbal/plant medicines (total 66) are used in equal proportion in preparation of the special anti-cancer *havan sāmagrī* sacrificed in the fire of *yagya* along with the *havan sāmagrī* used in daily *yagyas* of general healthy effects. Most of these are easily available in many parts of India. This *havan sāmagrī* is sacrificed with loud chanting of the *Surya Gayatri Mantra* (*Om Bhur Buvah Swah, Bhāskarāya Vidmahe, Diwākarāya Dhīmahi| Tannah Suryah Prachodayāt|| Swāhā||*). After putting each *āhuti* with the chant of *Swāhā*, one should utter “*Idam Sūryāya, Idam Na Mam*” to remember the altruistic teaching of *yagya* that it is for the benefit of entire creation and not for my selfish needs.

The best timings of this *yagya* are around the sunrise and sunset times. However, as per one’s compulsions the timings could be shifted by one or two hours such that *yagya* gets over before it is dark. Minimum of 24 *āhutis* must be offered every day. More *āhutis* should be put as per the Ayurvedic *yagya*-therapist’s recommendation. In most cases, fresh decoction of the special anti-cancer preparation is also prescribed. The dry powder should be grinded very fine and about 4 to 5 teaspoons of this should be boiled in half-a-liter water till the solution is reduced to about one-sixth of a liter. Half of this decoction should be drunk by the patient around 9 to 10 am and remaining around 4 to 5 pm.

This therapy may be used even if the patient has undergone surgery and has been given (or is still being given) chemo - or radiation - therapy. If practiced thoroughly and regularly as per suggestion of the Ayurvedic expert, *yagya*-therapy uproots the disease and also eliminates all chances of its recurrence.

List of herbs/plant medicines used in special anti-cancer *havan sāmagrī*:

Aluā (Gwarpāthā), Amaltāsa-leafs, Amarlatā, Aparājitā, Araṇya-sūraṇa, Aśwagandhā, Aśoka, Āka, Bangobhi (Mayur Śikhā), Banaphaśā, Baragada-bark skin, Bhārangi, Chakramarda (Chākuṇḍa), red Chandan, Chiḍa, Chitraka, Chuka, chhoṭī (small) Kanṭakārī, Dalchīni, Dāru Halḍi, Devadāra, Dhamāsā, Durvā, Giloya, Ginger, small Gokśarū, Gorakhamuṇḍī, Gūgala, Harchura, Haritaki (Haraḍa), Jalapippalī, Kanchanāra Chhāla, Kachanāra-Gūgala, Karelā (Bitter Gourd), Kaṭīrā, Khādira (Khaira), Kūṭha, Lhasuna (Garlic), Laudhra, Makoya, Mulaiṭhī, Nayantārā (Sadābahāra), Nīma-bark skin and leafs, Palāśa, Padmākha, Papari (Nirviśi), Patarangā, Punarnavā, Patanga, Paṭha, Pilo Jogido, Pīpala-bark skin, Priyāngu, Purṭuka (Nakhunā), Puṣkara-mūla, Revāṇḍi-chīnī (Arachu), Rudravanti Sahijana, Salāi gum, Saptaparnā, Sitāphala-leafs, Swaranakśiri, Śarpunkhā, Śāla, Śweta Niśoṭha, Śuddha Bhallāṭaka, Śyāma Tulasi (black Basil), Tālisa-patra, Tejaphala (Tumbaru), Turmeric, and Varuṇa.

All these are used in equal proportion except *tālisa-patra*, which is used in half the proportion of the others.

While performing anti-cancer *yagya* for five persons, on an average, 100 gm of the above specified special *havan sāmagrī* is mixed in 100 gm of the common *havan sāmagrī* as specified in Section 1.5.3 of Chapter 1.



Yagya Therapy for Respiratory System and Treatment of Tuberculosis

Respiratory system is most vulnerable to the hazards of growing air-pollution and air-born bacteria and viruses. Acute and chronic ailments associated with this system pose challenging problems for doctors and biomedical scientists today. As this functional component of the body is the center of supply of vital-energy via oxygen and purified blood, even the so-called minor or common diseases or malfunctioning of any of its functional units cannot be ignored for long.

In this Chapter we present what the ancient knowledge of *yagya*-therapy provides and is verified in the modern laboratories for treatment of some of the most frequent ailments or disorders of the respiratory system and dreaded diseases like pulmonary tuberculosis and other prominent types of tuberculosis.

Yagya-based Remedy of Common Cold and Cough:

Although common cold and cough are regarded minor health problems that attack almost everyone at least once a year at the time of change

of seasons, recurrence, prolongation or aggravation of these in want of proper care, diet and work-habit disciplines, and medication could be quite irritating and troublesome. At times it may occur due to bacterial infection or allergy. In such cases it might even weaken the respiratory system and give rise to sever health hazards.

In general, modern therapeutic approach relies on use of antibiotics in such cases, which give almost instant but temporary relief, that too at the cost of stomach-upset, weakness, etc. Most health-conscious people therefore prefer domestic and traditional methods of treatment of cold and cough. Alternate and complimentary therapies are also quite popular and are recommended by many open-minded Allopathic doctors too in case of allergy or chronic problems of this kind.

Yagya-therapy offers an added benefit of annulling the chances of spreading of the infection in the surrounding areas and also significantly reducing the chances of recurrence of the ailment.

As for the other applications of *yagya*-therapy, the patient as well as those vulnerable to contagious effects should do *yagya* every morning and evening with chants of *Surya Gayatri Mantra* using 1:1 combination of *common havan sāmāgrī* and the prescribed special *havan sāmāgrī*.

Special *Havan Sāmāgrī* for Treatment of Common Cold and Feverishness:

Dry coarse powder of the following taken in equal proportion.

Anjīra (figs), *Baheḍā*, Basil Leafs and seeds, *Chirāyata*, *Dhaniyā*, *Durvā*, *Gula-Banaphsā*, *Kāsani*, Rose petals, *Saunfa*, *Unnāva*.

For faster recovery, prepare a finely filtered powder of the special *havan sāmāgrī*. The patient should take one to two teaspoons each of this medicine in the morning and evening with lukewarm water.

Special *Havan Sāmāgrī* for Treatment of Cough (with or after cold):

Dry coarse powder of the following taken in equal proportion.

Bahedā, Bark skin of fig tree, Basil seeds, Clove, *Dālachīnī*, *Giloya*, *baḍī* (big) *Ilāyachī*, *Kākaḍāsingī*, *Mulāiṭhī*, *Kanṭakārī*, *Kulanjana*, *Munnakā*, *Pāna*-roots, *Pippalī*, Pomegranate, Turmeric, *Unnāva*, *Vāsā*.

A finely filtered powder of the special *havan sāmāgrī* should also be prepared. The patient should take one or two teaspoon each of this medicine in the morning and evening with honey.

Treatment of Asthma and Chronic Bronchitis:

Some people may doubt that the ‘fumes’ of *yagya*-fire would further aggravate the problem. But there is no need for panic, as there is no ‘smoke’ produced in a properly conducted experiment of *yagya*. Scientific research findings also support this fact (e.g. see the results outlined in the Chapter 12).

One should always take care of choosing the amount and type of *havan sāmāgrī* and medicinal woods as prescribed by the Ayurveda doctor or *yagya*-therapy expert. The *yagya-kunḍa* should also be of the prescribed shape and should be sufficiently deep and the wide at the base; woods should be dry and arranged in such a way that there is substantial flow of air underneath the fire.

The patients as well as those vulnerable to contagious effects or those bearing the risk of asthma due to family history or genetic relation with the patients should do *yagya* every morning and evening with

chants of *Surya Gayatri Mantra* using 1:1 combination of *common havan sāmagrī* and the prescribed special *havan sāmagrī*.

Every evening, incense-stick of this preparation should be burnt for some time in the evening in patient's surroundings. Natural inhalation of the fragrance and medicinal phytochemicals released in its thin fumes with vapors, and in the colloidal and sublimated components thereby provides soothing effect to the patient.

This healthy medicinal effect of *yagya* gradually gets more intense by continuation of *yagya*-practice and brings desired relief forever.

Special *Havan Sāmagrī*:

Ajavāyana, *Apāmārga*-seeds, *Atīsa*, *Āka*—yellow leafs, *Babūla*—bark skin, *Baheḍā*—outer shell, *Basil-panchānga*, *Bhānga*, Clove, *Chirāyata*, *Dhaniyā*, *Dhāya*-flower, *baḍī* (big) *Ilāyachī*, *Indrajau*, *Kaṇṭakārī*, *Kākaḍāsingī*, *Mālkānganī*, *Nāgarmothā*, *chhoṭī* (small) *Pippalī*, *Posta*-donda, Sandalwood, *Sonṭha*, Turmeric, *Vāsā*-leafs.

For faster recovery, prepare a finely filtered powder of the special *havan sāmagrī*. The patient should take one to two teaspoons, or as prescribed by the *Vaidya*, of this medicine in the morning and evening with honey.

***Yagya* Therapy for Treatment of Tuberculosis**

Tuberculosis has been declared by the World Health Organization (WHO) as among the most dangerous diseases rampant in most parts of the under-developed and developing world.

Dr. Fundan Lal Agnihotri, a reputed Allopathy expert on Tuberculosis has presented in his book^[4] over twenty-five hymns from the Vedas, which mention of some kinds of 'germs' and bacteria/viruses in general and those causing Tuberculosis in particular; several of the hymns cited

by him deal with treatment of Tuberculosis by *yagya*. A sample of these is shown below together with the meanings:

Indrasya Yā Mahī Dṛaṣat Krimerviśvasya Tarhaṇī |

Tayā Pinaṣmi Saṁ Krimīn Draṣadā Khalvāñ Iva ||

–Atharv. Ka.-2||Sukta-31||Mantra-1

Meaning: The grand ‘force’ of this *yagya* will ruin all the ‘germs’ and bacteria, like a big stone crushes and powders the grains beneath it.

Hṛdayāt Te Pari Klomno Halikṣṇāt Pārśvābhyām |

Yakṣaṁ Matasnābhyām Plinho Yaknaste Vi Vrahāmasi ||

–Atharv. Ka.-2 || Sukta-33 || Mantra-3

Meaning: I (*Yagya*) eliminate all the tubercular disease (infection) from your (the patient’s) lungs, respiratory canals, heart, bones, marrow, liver, intestines, kidneys, etc.

Na Tam Yaksmā Arūndhate Nainam Śapatho Aśnute |

Yam Bheṣajasya Gulguloḥ Surbhirgandho Aśnute ||

Viṣvañchastasmād Yaksmā Mṛagā Aśwā Iverate |

Yad Gulgulu Saindhavam Yad Vāpyāsi Samudriyam ||

–Atharv. Ka.-19 || Sukta-38 || Mantra-1,2

Meaning: Whose body has absorbed the plant medicines used in the *yagya* every day so well that the aroma of these medicines like “*gūgala*” is spread in his body, to him the diseases like tuberculosis cannot even touch. Nothing can curse his/her health. Because of the fragrances of *gūgala* etc emitted in *yagya*, the diseases like tuberculosis run away and disappear like fast racing horses and deer in a forest.

Similar citations are available in several Puranas and Ayurveda-Scriptures as well.

The following herbal/plant medicinal preparation is used in anti-tuberculosis *yagya*. Sacrifices (*āhutis*) of this preparation are made in the *yagya*-fire with rhythmic loud chanting of the *Surya Gayatri Mantra*.

As guided in Section 1.5 of Chapter 1, for all therapeutic *yagyas*, on an average, the *āhutis* (made with the sound of “*swāhā*” at the end of the *mantra*) should continue for 25-30 minutes every day; or, at least 24 *āhutis* should be offered. Upon completion of *āhutis*, deep breathing exercise or *prāṇākāraṣaṇa prāṇāyāma* should be practised for at least 10 minutes sitting in front of the *yagya-kunḍa*.

Constituents:

Proportions of the total amounts for the three ‘Groups’ listed here are 3:2:1. The amounts of the constituents within a group were in equal proportions.

Group1: *Bael*-barkskin, *Gambhārī*, *Jāvitri*, *Jivanti*, *Kamal Gaṭṭā* - kernel, *baḍī* (big) *Kaṇṭakārī*, *chhoti* (small) *Kaṇṭakārī*, *Keśara*, *Nāgakeśara*, *Nilakamal*, *Pādhal*, *Praśniparnī*, *Rudanti*, *Rudravanti*, *Śankhpuṣpī*, *Śarpunkhā*, *Śatāwar*, *Śāliparnī*, *Śyonaka*, *Tejapatra*, *Vāsā*.

Group2: *Agar*, red *Chandan*, white *Chandan* – sandalwood powder, *Chirāyata*, *Devdāra*, *Giloya*, *Gūgala*, *Tagar*,

Group3: *Aśwagandhā*, *Jau* (Barley), *Jāyphala*, *Lawang*, *Tila*.

The amount of *ghee* (clarified butter) of cow’s milk mixed up in the above preparation should be nearly its one-tenth. Small amounts of sugar and *Munakkā* (big resins) are also mixed in it.



Yagya Therapy to Control Diabetes

Diabetes is among the major diseases, especially in the developed and fast developing countries, which have challenged the medical technology and pharmaceutical developments of the modern times.

Although malfunctioning of the pancreas due to rare electrophysiological and disturbed blood-biochemistry, and hence genetic disorder and family history are also among the known causes of certain types of diabetes, the major causes registered most frequently in the modern times are — wrong food habits, over-consumption of sugar and the so called urbanized modern lifestyle in which one physically adopts a lavish and luxurious life away from Nature and physical labor and remains mentally stressed because of the rat-race of progress. Sudden depression or shocking tragic event can also significantly aggravate the blood glucose levels of those having risk of diabetes.

Ayurveda scriptures describe 20 types of diabetes (called *prameha* and *madhumeha* of different kinds):

Sarva Eva Pramehāstu Kālenā Prakāriṇaḥ |
Madhumehatvamāyāntī Tadāsādhya Bhavanti Hi ||

The major causes of *prameha* are described as — excessive rest, luxurious lifestyle without physical work, unrestrained eating of meat, sweets, carbohydrates and fruits and other eatables that generated *kapha* (mucus and lethargy producing substances). Excessive and unclear (due to release of oily proteins like albumin) urination is a prominent symptom of “*prameha*” which further aggravates into *madhumeha* — most common type of diabetes (diabetes mellitus) in modern terminology.

In view of the severe risks like heart attack, stroke, and gangrene, diabetes is also counted among the dreaded diseases of our times. The patient should take all necessary measures — especially disciplined diet and physical exercises — to keep the disease under control. The use of so-called ‘sugar-free’ cubes/powders as a substitute of sugar often attracts the young diabetics, or to youths prone to rise in blood sugar. The use of such substances should be better avoided, as these are synthesized chemicals.

Unfortunately, in spite of prolonged use, the modern medicines — including insulin therapy, do not cure the disease. The problem aggravates if the patient stops taking these. Moreover, their constant use has increasing side effects on kidney, etc. Therefore, most patients look for the support of alternative therapies.

Ayurvedic texts describe a complete plant-medicine based therapy for treatment of all kinds of diabetes. *Yagya*-based treatment of these is also prescribed there for preventive as well as therapeutic benefits.

The method of performing therapeutic *yagya* is same as described in Chapter 1 (Sec. 1.5). The *āhutis* of the plant medicinal preparation (*havan sāmagrī*) are offered in *yagya*-fire with the chanting of *Surya Gayatri Mantra*. The medicinal preparation consists a mix of 1:1 proportion of the common *havan sāmagrī* and special *havan sāmagrī*. Constituents and method of preparation of the common *havan sāmagrī* are as presented in Section 1.5.3.

Wood:

Any of the medicinal woods e.g. Mango, *Palaśa*, *Pīpala*, *Banyan*, or *Gūlara*, prescribed in Section 1.5 could be used for burning the *yagya*-fire, but *Gūlara* (*audumbara*) is referred in the scriptures as the best in case of *yagya*-therapy of *Prameha* and *Madhumeha*.

Special *Havan Sāmagrī*:

Dry coarse powder of the prescribed constituents (in equal proportions) as listed below.

For Treatment of *Prameha*:

Agnimantha, *Asagandha*, *Ānvalā*, *Babūla* seeds or flowers, *Baheḍā*, *Banyan*-bark skin, *Bhui ānvalā*, *Blackberry*-seeds, *Dāru Haldi*, *Devadāra*, big *Gokśarū*, *Gorakhamuṇḍī*, *Haraḍa*, small *Ilāyachī*, *Kauncha*-seed, *Khādira*, *Khiraiṭī*-seed, black *Mūsali*, white *Mūsali*, *Nāgarmothā*, *Sālam miśrī*, *Supārī*, *Śatawar*, *Tamarind* seed, *Tālamakhāna*, *Turmeric*.

Additional Prescriptions:

Finely filtered (through a thin cloth) powder of the special *havan sāmagrī* should also be made. Patient should take one teaspoon (or as prescribed by the *Vaidya*) of this with crème or ghee (of cow's milk) before each meal in the morning and evening.

Tablets: For patient's convenience, tiny tablets of this preparation should be made by thoroughly mixing it the essence of *ghṛatakumārī* (*gwārapāṭhā*). As the powder is kept protected in an airtight container, these tablets may also be first dried and preserved in suitable airtight bottle. This way the preparations (powder or tablet) can be easily used for about two months time.

Patients of *prameha* are also advised to observe chastity, as this helps check out white discharge.

Constituents of Special *Havan Sāmagrī* for Treatment of *Madhumeha*:

bitter *Atīsa*, *Bhānga*, *Bilva*-leaves, Blackberry-seeds, *Dāru Haldi*, Fenugreek-seeds, *Giloya*, *Guḍamāra*, *Gūlara*-fruit, *Haraḍa*, *Kaitha*-pulp, *Karelā* (bitter gourd) – fruit and leaves, *Kālamedha*, *Khasa*, *Khurāsāni ajavāyana*, *Kūṭaja*, *Kuṭakī*, bitter *Kūṭha*, *Lājawantī*-seeds, Mango-seed's kernal, *Medhāsingī*, *Nirmalī*-seeds, *Punarnavā*, *Rasauta*, *Saptarangī*, *Śilājīta*, Turmeric, *Ulaṭakamabal*, *Vijayasāra* (essence of *vijayā*).

Additional Prescription is similar as in the case of *prameha* except that instead of crème or *ghee*, water should be used to gulp the powder. Method of preparing the tablets however is the same in both the cases.

Diet Restrains: Both Allopathy and Ayurveda emphasize the need of restraining sugar and carbohydrate contents in the diet of diabetic patients. The patients should therefore avoid eating potato, rice, and sugar in their meals. Most of the sweet fruits are also restricted. In normal course (when their blood-sugar level is under control) they may take fruits like Apple, Sweet lime, Papaya, Pomegranate. Bitter Gourd, green leafy vegetables, Fenugreek, Black Berry are excellent

for them in all seasons. Instead of *rotī/chapātī* (Indian bread) of wheat flour, they may use this made up of the flour of wheat and *chanā* (black gram).



Yagya-Therapy to Get Rid of Obesity

Obesity is criticized not only for its role in making one less efficient, less resistant to diseases or funny in appearance but the scriptures also cite the severity of its consequent diseases and disorders, which have also been listed in the modern studies. Most common and high-risk health hazards that go like hand-in-gloves with obesity are — breathlessness, cardiac problems, high blood pressure and diabetes. Frequent fatigue, loss of efficiency and uncomfortable and laughable physique pulls their morale down and thus in many cases they are also found suffering from inferiority complex, depression and related psychological and neuronal complications.

At the root of most of the negative consequences of obesity lie the excess accumulation of fats and hydrocarbons that upsets the normal metabolism and thus in Ayurvedic terminology, augments the *tridoṣas* — *vāta*, *pitta* and *kapha* in one's natural constitution. Indigestion, constipation, acidity are also frequent complaints due to high *pitta*.

Exceptional hunger is a consequence of increased *vāta* in obesity, which amounts to further increase in patient's body weight.

Malfunctioning of the liver and kidney are more dangerous consequences of *pitta* and *vāta doṣas* in prolonged obesity. The problems caused by high *vāta* are also most likely companions of obesity; these include — joint pain, backache, arthritis, sciatica, spondylitis, other problems of the spinal cord, hernia, varicose veins, osteoporosis, etc. The rise in *kapha doṣa* would add to the lethargy of fatty patients; short breaths, snoring, sleep apnea, blood pressure, etc are also common complaints in such cases; impotency would be an added risk if this *doṣa* were very high.

The hazardous effects of metabolic disorders and disruption of regular production and supply of vital elements (*dhātus*, in Ayurvedic terminology) because of accumulation of excess fat and flesh include — reduction in useful cholesterol (H.D.L.) and increase in the harmful cholesterol (L.D.L.), which disturbs the rheology of blood and risks blood pressure and heart related problems. The increased rigidity of red blood cells, higher coagulation propensity and inadequate blood flow also enhance the risk of brain stroke etc. Reduction in secretion of several vital hormones like insulin is another severe hazard of obesity, which is being researched all over the world. Deficiency of insulin secretion corresponds to alarming chances of diabetes.

Ayurvedic scriptures advise several methods for uprooting obesity and also provide feasible ways for sustaining healthy and hearty life. These include easy-to-adopt disciplines of food, eating habits and living style and naturally effective medicines like *rasayanas* and decoctions prepared with the help of selected herbs/plant medicines. *Yagya*-therapy is prominent among the Ayurvedic methods of curing obesity. These modes of medication and healing applications cited in ancient Indian

healthcare literature have also been found effective as per the findings of some modern laboratory experiments and clinical trials conducted at the Brahmavarchas Research Centre and the Dev Sanskriti University, Shantikunj, Haridwar. We shall cite some of the herbal/plant medicinal preparations in this regard.

Medanāśaka Kwātha (Fat-destroying Decoction):

Ingredients: Equal quantities of — *Ānvalā*, *Bahedā*, *Chitraka*, *Giloya*, *Haldi* (Turmeric), *Haraḍa*, *Nāgarmothā*, *Tejapatra*, *Vijayasāra* (essence/extract of *vijayā*), and Seeds of *Circiṭā* or *Apāmārga*.

Method of Preparation and Dose:

Mix the above ingredients in equal proportion in dry form. Prepare a coarse powder by adequate grinding. Keep the powder in an airtight container. As an average dose for an adult, every day, fresh decoction prepared with five teaspoons (about 15gm) of this herbal powder in half-liter water should be used. Soak 15gm of the powder in half a liter of water at night. Boil it the next day morning. The flame of the burner or stove should be kept mild. It should also be stirred in between to avoid burning.

Boiling should continue till the solution reduces to its one-fourth. When it cools down to normal (room) temperature, it should be filtered using a fine, clean piece of cloth. Half of this filtered solution, mixed with about a teaspoon of honey should be drunk empty stomach in the morning between 8 am and 10am and remaining half should be taken with one teaspoon of honey between 4 pm and 6 pm the same day. Fresh decoction should be prepared for every day. Honey should be pure; otherwise the decoction should be taken without it, as the sugar mixed, adulterated honey is not good for health.

Like several other Ayurvedic medicines and the diet norms as recommended by the doctor should also be taken and observed for best results. In general, as it is well known in the case of obesity, fried and oily food, use of cream, cheese and lavish desserts and dry fruits should be strictly avoided. Fresh, green leafy vegetables and fibrous food should be taken instead. The morning dose of the above decoction should be taken empty stomach and nothing should be drunk at least for half-an-hour after taking this dose; nothing should be eaten until an hour after this dose. The duration between eating or drinking something (other than water) and taking the second (i.e. the afternoon) dose, should be at least an hour before and after taking this dose.

If this medication is continued with diet and exercise norms as given below, the positive results begin to show fast. Within a month a fat chap would see significant reduction in his fat and body-weight and would feel fit, energetic and active.

The following ‘anti-corpulence’ herbal medicine restrains the production of fat, helps decomposition of hydrocarbons and production of useful proteins and easily removable juices without disturbing the healthy metabolism. It can be taken with or without taking the decoction. This together with the decoction is usually advised for those who cannot do sufficient physical exercise or cannot be regular in it because of acute obesity or some other constraints.

***Sthauilyahara* (Anti-Corpulence) Powder:**

Ingredients: Ten grams (10gms) each of the following — *Ānvalā*, *Bahedā*, *Bakuchī*-seeds, *Chavya*, *Chitraka-mūla*, *Haraḍa*, *Kālījiri*, *Saunṭha*, *Pīpala*, *Kālīmircha* (Black Pepper), *Pipplāmūla* (root of *Pīpala*), *Kālā Namaka* (Rock Salt), *Sādā Namaka* (Common Salt), *Sendhā Namaka*, *Vāyavidang*; seeds of *Chirciṭā* or *Apāmārga*

Yavakṣāra (a carbonate of potash) and *Kāntalauha-Bhasm* (*Bhasm*: Ayurvedically processed ‘ash’ of a special kind of ferrous ore).

Preparation and Dose: Mix all the eighteen ingredients in pure dry form. Grind the mixture into fine powder. Keep this powder in airtight glass bottle or any other airtight glass container. The average dose of this powder to be taken twice a day is — about half to one gram (half teaspoon) in the morning empty stomach and same dose in the evening at least an hour before dinner and an hour after eating anything else. It is advisable to take this dose of the anti-corpulence powder with two teaspoons of honey. However, if pure, natural honey is not available or is not affordable, it can very well be consumed with little water.

The diet restrictions remain as in the case of using the decoction; that is, fried and high calorie stuffs should be avoided. An ideal diet is described below. This should be adopted as far as possible in general and is a must in case the disease (obesity) is very advanced or its cause is so intense that no other medication has been effective despite diet restraints. In any case one should drink sufficient water (minimum twelve glasses per day for an adult).

Ayurveda also advises that, except for heart patients or patients having other serious problems, every adult should drink water every morning when the stomach is empty to its full capacity. At least one glassful of water should be consumed 5-10 minutes before taking meals. The amount of water drunk during and immediately after meals should be kept to a minimum – say few gulps to keep the throat wet. At least one glassful or two of water should be drunk at a slow pace after about an hour after the meals. This simple practice prevents acidity and also helps reducing obesity. Pure drinking water is a rich source of energy and of many vital minerals and vitamins. It is also a necessary medium for many important biochemical reactions including those

of metabolism and ionic balance. It thus helps freshening the brain as well. So consuming it in substantial amounts is generally good for healthy and hearty life.

The limitations of effective modes of treatment of obesity in the modern approach and the relevance and importance of Ayurvedic medicines that can be eaten in powdered form or drunk as decoction are discussed with the list of herbal/plant medicines and guidelines on mode of preparation and use.

Yagya-based Remedy:

For multiple benefits and greater impact it is prescribed that one should also perform *yagya* using special *havan samagri* for reduction of fat. This consists of finely mixed fresh but dry powder of the following 46 herbal/plant medicines in equal amount.

Agar, Apāmārga, Arani (agnimāntha), Bacha, Bakuchi-seeds, Bayviḍang, Bilva, Blackberry-leaf and seeds, black Basil Leafs, green Basil Leafs Brāhmī, Camphor, Chavya, Chitraka, Dālachīnī, Devadāra, Erandamūla, fruits and bark-skin of Arjuna, Giloya, Gūgala, Jau (Barlay), Kālijīrī, Kūṭha, Lobāna, Laudhra, Mango tree's bark skin, Mālkānganī (Jyotiṣmati)-seeds, Mocharasa, Mulaīṭhī, Nāgakesara, Nāgarmothā, Nirguṇḍī, Nīma-leafs, Pipala-mūla, Pomegranate tree's bark skin, Priyāngu, Punarnavā, Triphalā, Trikaṭu, Sandalwood, Tejapatra, Sarpagandhā, Śankhpuṣpī, Paṭolapatra, Sugandhabālā and Vijayasāra (essence/extract of *vijayā*).

In daily *yagya*, 50gms of this special preparation mixed with 50gms of the following herbal preparation (commonly used in every *yagya*) is sacrificed with the chanting of the *Surya Gayatri Mantra*.

Commonly used *Havan Sāmagrī*: This consists of dry coarse powder of the following in equal proportion: *Agar*, *Tagar*, *Devadāra*, White Sandalwood, Red Sandalwood, *Giloya*, *Aśwagandhā*, *Gūgala*, Cloves, etc, as described in Section 1.5.3 earlier.



Yagya Therapy for Oral & Dental Ailments and Eyesight Problems

Healthy functioning of every organ, every component of the body howsoever tiny it may be, is important for healthy and hearty life. We often tend to neglect this fact and take things for granted. Special care of the teeth for example is often neglected. Brushing them up once or twice in a haphazard manner is usually the only way we do something for our teeth. Rest of the time, while we are awake, we keep eating and depositing dirt on the tongue, teeth and gums. We realize the mistake only when they pain.

Eyes are counted among the most precious and delicate faculty we are gifted with. But do we really attention to their optimal use and care? Most of us don't even know how to clean them thoroughly. We also are careless about the right postures of reading, watching computer screen or television, etc.

Ayurveda being a science of holistic healthcare provides substantial practical tips^[14-15] in the daily routine to ensure healthy functioning

of all such organs. But we do not care to change our routine and look for easy therapeutic solutions as and when there is a problem. This ancient science offers substantial help in this regard too.

Remedy of Oral and Dental Diseases

Yagya-therapy has been found to be quite effective in the cure of a variety of contagious diseases and the diseases caused by bacterial, viral attack/infection including those of oral and dental systems.

A special *havan sāmagrī* is prepared by grinding the following combination of dry herbs/plant medicines as rough powder. In case all the constituents are not available, one should use as many of these as possible. The *homa (yagya)* is performed by sacrificing in the *yagya*-fire this *havan sāmagrī* mixed, in equal proportion, with the commonly used *havan sāmagrī* (c.f. Section 1.5.3), which is generally useful for vigorous health and environmental purification.

Special *havan sāmagrī* consists of coarse dry powder of the following in equal proportions — *Agar*, *Baheḍā*, *Brāhmī*, *red Chandan*, *Devdāra*, *Gūgala*, *Harāḍa*, *Jaṭāmānsi*, *Mulaiṭhī*, *Nāgakeśara*, *Nāgarmothā*, *Somalatā* or *Giloya*, *Sonṭha Śankhpuṣpī*, and *Tagar*.

Small quantities of odorous, sweet and healthy nutrients like saffron, musk, *Baḍī Ilāyachī*, *Jāyaphala*, *Jāvitri*, Camphor, Jaggery, Sugar, Dried grapes (raisins), *Chhuhāra*, clarified butter (*Ghee*), dry-fruits, dry coconut, and a mixture of barley, rice and sesame seeds are also used in *yagya*.

The common *havan sāmagrī*, special *havan sāmagrī* and the above are mixed in the ratio of 3:2:1.

The wood used in *yagya*-fire is also of selected medicinal type; usually, *Mango*, *Śamī*, *Pipala*, *Palāśa* are recommended for this purpose.

Volatile healthy substances and phytomedicines are spread in the vapors, gases, colloidal output of *yagya*, oral and nasal inhalation and skin transport of which bring the desired effects in a most natural way. The *mantra* (Vedic Hymn) prescribed for *yagya*-therapy of dental and oral diseases like pyorrhea is the “*Surya Gayatri Mantra*” This should be chanted loudly and the herbal preparation should be sacrificed in the holy fire of *yagya* at the end of each chant.

Eyesight Problems and Eye-Ailments:

Usually by disease of eyes one thinks of infections like conjunctivitis; by eye-problems one thinks of weakness of eyesight, Hypermetropia or Myopia, cataract, partial or total blindness, etc. Except perhaps in the case of infections, it is difficult to see what role medicines, other than eye-drops or ointment would have. More so what the inhalation through *yagya* would do in case of eye-problems? It should be noted that the functioning of the optical nerves and related system of eyes, its retinal membrane and tissues, etc are sensitive to changes in blood biochemistry and blood flow rate and pressures, resulting in varieties of problems ranging from irritation in eyes, weak eyesight, partial blindness, fibrous growth or tumors in the eye-region.

Pulmonary administration of effective medicines, which do not have any side effects, is therefore effective in most diseases or problems of eyes. Hence the importance of *yagya*, as the specific plant medicinal preparation (*havan sāmāgrī*) used for this purpose consists of good combination of effective medicines, natural disinfectants and healthy substances that cause no risk of side-effects and are naturally soothing. The preparation and mode of use is as follows.

The special *havan sāmāgrī* for eyes is prepared by mixing equal proportions of dry coarse powder for the following plant medicines/herbs: *Babūla* Leafs, *Bacha*, Camphor, Clove, *Devadāra*, *Dāru Haldi*,

Dhamāsā, *Gorakhamundī*, *Kachurā*, *Laudhra*, Lotus, *Mulaiṭhī*, *Nīma*-leafs, *Rasauta*, red *Chandana*, and Turmeric.

Yagya is performed using this special *havan sāmagrī* mixed with the common *havan sāmagrī* in 1:1 proportions.

The problems of eyes including weak eyesight are also caused by severe tension or physical stress. *Yagya* induces soothing effects of calming mind and thus offers added benefits in such cases as well.

For rapid healing, a decoction of the following Ayurvedic prescription should also be taken. Make fine powder of equal quantities of turmeric, *lāla chandana*, *giloya*, *dāru haldi*, *kutakī*, *chirāyatā*, *saunṭha*, *nīma* bark-skin, *chitraka*, *vāsa* root, *patola* leafs, *anvalā*, *haraḍa*, *baheḍā*, *nāgarmothā*, *kūtaja* bark-skin, barley, *gorakhamundī*, *śatāvara*, *sārivā*. The powder should be kept in airtight container and every day about 50gm of this powder should be boiled in half-liter water. Keep the decoction continuously boiling (on mild flame) till only 100 ml is left. Let it cool. Filter it using fine, neat cloth and drink it fresh in the morning.



Yagya Therapy to Curb Joints & Spinal Problems

Major diseases and problems of the spinal cord and bone (joints) are called *vāta-vyādhis* in Ayurveda, as these pertain to the disorder of the lubricant energy (*vāta*). These include — Sciatica, Rheumatic Arthritis, Osteo-arthritis, Synovitis of the Knee, Gout, Facial Paralysis, Hemiplegia (partial paralysis), Paraplegia (paralysis of both legs).

Though there is no fatal effect or severe risk except the risk of whole body paralysis in certain kinds of spinal problems, the *vāta-vyādhis* are quite painful and aggravate with age, restraining one's mobility and making him/her practically handicapped in acute cases.

Balanced diet, especially avoidance of substances that aggravate *vāta*^[14-15] and regularity in physical exercises of the whole body via suitable *yogāsanas*^[16] are a must to prevent the *vāta-vyādhis*, which in the present times have become most common “professional hazards” Sitting on computers for a long stretch of time, wrong posture while working on a desk, reading/writing, working in the kitchen or watching TV are most familiar causes of many of these types. Calcium deficiency

is another prominent cause, especially among women in the menopausal phase.

Physiotherapy allays the pains and offers to control the problem provided the diseases has not aggravated beyond proportions. Else one has to rely on so-called surgical supports like clutches, belt, collar, walking stick, doctor's shoe, wheel chair etc. Other than physiotherapy, modern medical sciences have little to offer in such cases. Solutions by surgery are possible only in limited cases that too with some risks. As far as treatment by medication is concerned, there is practically nothing except calcium therapy and painkillers in case of modern medicines. Many of the painkillers and nerve-muscle soothers have severe side-effects including risk of cardiac arrest or stroke or coma. Patients should therefore not take such medicines without consulting a doctor. Especially those having some chest infection, or asthma type problems should be extra careful.

Ayurvedic Treatment:

Cleansing of stomach and intestines is emphasized here before medication. Patients having constipation may drink one or two teaspoons of castor oil or *eraṇḍa*-oil in one glass of lukewarm water in the night before going to bed, as it works like a partial anima and loosens the stools. Patients having problems with digestion may take Ayurvedic tablets like *Mahāśankhavaṭi* after lunch.

Patients, especially those suffering from Sciatica and Arthritis should observe strict diet control and avoid eating dry and hard substances, pulses like *uḍada* (horse-bean) and sour and cold substances – including curd, buttermilk and pickles.

Patients of *vāta-vyādhi* should do *yagya* every morning with chants of the *Surya Gayatri Mantra*. If someone is not in a position to sit, he/

she should lie down (his bed should be kept) near the *yagya-kunḍa*. The method of doing *yagya* is same as guided in Section 1.5.3.

Special *Havan Samagrī*:

As per Ayryurvedic prescriptions the special *havan sāmagrī* is made up as coarse dry power of the following plant medicines:

Agnimantha-bark skin, *Amaltāsa*-fruit pulp, *Aśwagandhā*, *Bael*-bark skin, *Bakāyan*-stem skin, *Chitraka*, *Devadāra*, *Dhamāsā*, *Eranda-mūla*, Fenugreek seeds, *Giloya*; bark skin of *Daśamūla*, *Gambhārī* and *Gokśarū*; *Gūgala*, *Gwārapāṭhā*-root, *Harsingāra*-leaves, *Jaṭāmānsī*, bark skins of *baḍī* (big) *Kaṇṭakārī* and *chhoṭī* (small) *Kaṇṭakārī*; *Kāyaphala*, *Kevākanda*, *Khiraīṭī*, *Medhāsingī*, *Mulaiṭhī*, *Nāgarmothā*, *Nirguṇḍī*, *Pāḍhal*-bark skin, *Pīparā-mūla*, *Pohakara-mūla*, *Punarnavā*, *Rāsnā*, *Sahajana*-bark skin, *Salāi* gum, *Salāi*-bark skin, *Sonapāṭhā*-bark skin, *Sonṭha*, sweet *Suranjāna*, *Tagar*, *Tejapatra*, black Turmeric, *Uṇṭakaṭārā*-root, *Vidārikanda*, *Vidhārā*, Walnut & bark skin of walnut tree.

Additional Support:

Two to three tablespoons, or as per the prescription of the *Vaidya*, of fresh decoction of the more finely grinded special *havan samagrī* should be given to the patient every morning and evening. If that is not possible then a finely filtered (through a thin cloth) powder of the same should be made. Patient should take one teaspoon, or as prescribed by the *Vaidya*, of this with honey before each meal in the morning and evening.

Massaging with Herbal Oil:

Massaging with herbal oil gives relief from the pains of Sciatica, and Rheumatic Arthritis. Therefore massaging is prescribed as additional support for such patients. But massaging should be done as per the

doctor's advice and should be conducted by someone properly trained in it. The person who does the massage should warm up his/her hands in-between; oil should also be heated up slightly. This gives additional benefit of warming up the body parts being massaged and thus allays the pain for longer.

Preparation of Herbal Oil:

Mix the following, grind thoroughly and to get fine powder. Mix this powder in 1 kg of mustard oil and boil it on mild flame till it begins to concentrate; stir regularly in-between. Then let this processed oil cool.

Afima (2gm), *Ajavāyana* (15gm), *Atīsa* (15gm), *Āka*-root (80gm), *Bhānga*-leaves (80gm), *Bhilāvā* (10gm), Chilly seeds (12gm), *Dhatūrā*-seeds (80gm), Fenugreek-seeds (80gm), Garlic (40gm), *Kalihārī* (5gm), *Kanera*-root (80gm), *Kaṇṭakārī* (10gm), *Kāyaphala* (100gm), *Kuchalā* (80gm), *Priyāngu*-seeds (5gm), *Śankhūyā* (2gm), Tobacco (2gm).

After the oil cools down to room temperature, filter it and mix the following in it: Peppermint (40gm), Camphor (80gm), Essence of *Ajavāyana* (40gm) and Methyl Salicylic Acid (30gm). Now the oil is ready for use; fill it in a clean bottle.

The paste like substance left in the cloth after filtering may also be preserved in a separate container. After oil-massaging, make a layer of this paste on the joints or on the most painful parts of the body and tie it with bandage. The concentration of processed medicines heals the muscles from within.



Yagya Therapy for Psychiatric Healing & for Mental Vigor and Sharpness

Whether we like it or not, whether accept it or not, most of us do not possess a perfectly sound mental health these days. Though the extent and level of manifestation may be different, but almost every adult is suffering from mental pressures and disorders in varieties of forms — tensions, stress, anger, depression, despair, frustration, anxiety, apprehension, excitation, aggression, restlessness, whimsical mood-swings, frequent mental irritation, suspicion, lack of confidence, disinterest, dullness, etc. The cases of insomnia, convulsions/epilepsy, amnesia, aboulia, dementia, cranky behavior, psychiatric problems registered in the hospitals, clinics and counseling units are also on rise.

Doing *yagya* everyday is cited in the scriptures as an excellent mode of sustaining mental balance, calmness and strength. Inhalation of the medicinal vapors, gases and thin colloid-like ‘fume’ of *yagya* soothingly activates the neuronal and hormonal system and helps rejuvenate the mind-body functions harmoniously. Anyone who has ever participated

in scientifically performed *yagya* would have experienced a kind of blissful enthusiasm and energy after doing this. This is attributed, apart from the phyto-chemicals of specific plant medicines and their relation with hormonal secretion, to concentration of negative electrical ions around the *yagya*-fire and impact of chanting specific *mantras* collectively at specific rhythm during *yagya*.

The method of doing *yagya* for therapeutic benefits is same as that described in the Sec. 1.5, except that the common *havan sāmāgrī* need not always be mixed in the special *havan sāmāgrī*.

Wood:

Although any of the medicinal woods e.g. Mango, *Palaśa*, *Pīpala*, Banyan, or *Gūlara*, prescribed in this section could be used for lighting the *yagya*-fire, but *Palaśa* being referred as the ‘wood’ with ‘moonlight like’ soothing effects is cited in the scriptures as the best in case of *yagya*-therapy of mental disorders and deficiencies.

Mantra: As we all know, many psychiatric cases of whimsical moods etc are termed ‘lunatic’. This is because the lunar cycle of moon (*Chandra*) has intense effect on the psychology of patients. The science of “Swara Yoga” also signifies the lunar current of breath as the best for keeping the mind cool, thoughtful and creative. Therefore, in the *yagya*-therapy experiments for psychiatric orders and mental health, the *āhūtis* are offered with the chants of the *Chandra Gayatri Mantra*. Unless otherwise mentioned, this is what would apply in the following cases.

Psychiatric Problems:

The patients should do *yagya* using the special *havan sāmāgrī* prepared as a coarse powder of the following in equal proportion.

Sweet *Bacha*, Banyan-fruit, Pulp of *Bera* (Indian plum), *Brāhmī*, *Giloya*, *Gorakhamuṇḍī*, *Jaṭāmānsī*, *Kākajānghā*, *Khiraiṭī*-seed, *Maulśrī*-bark skin, *Mālkāṅganī*, fresh leaf of *Pīpala*, *Sarpagandhā*, *Śankhpuṣpī*, *Śatawar*, Tamarind seed.

Finely grinded powder of the above should be made. It should be further filtered through a cloth. The filtered fine powder constitutes the medicine for oral intake. The patient should take 2-3 teaspoon (or as prescribed by the doctor) of this twice a day with ghee and sugar or plain water.

Stress & Hypertension Due to Mental Tension:

The following plant medicines/herbs are mixed and grinded. Coarse dry powder of these is kept as special *havan sāmāgrī*.

50 gm sweet *Bacha*, 50 gm *Ghuḍabacha*, 200 gm *Nāgarmothā*, and 100gm each of the following: *Brāhmī*, *Giloya*, *Gorakhamuṇḍī*, *Maulśrī*-bark skin, *Mālkāṅganī*, *Sarpagandhā*, *Sugandhakokilā*, *Śankhpuṣpī*, *Śatawar*.

Fine powder of these is further filtered through a cloth and two to three teaspoon of this is given to the patient with water or milk every morning and evening. (The dose may be increased or decreased as per the doctor's advice).

Before doing *yagya* using it, the special *havan sāmāgrī* is mixed with 100gm each of Barley, *Ghee*, *Jalakumbhī*, Rice, and *Til*, and 50gm of organic *guḍa* (treacle, molasses).

To Eliminate Depression:

Make coarse dry powder of the following in equal amounts:

karakarā, sweet *Bacha*, *Giloya*, *Ghūḍabacha*, *Jaṭāmānsī*, *Mālkānganī*, *Nāgarmothā*, *Sugandhakokilā*, *Tejapatra*, *Timura*.

This dry powder is kept as special *havan sāmāgrī*.

Fine powder of these is further filtered through a cloth and two to three teaspoon of this is given to the patient with water or milk every morning and evening. (The dose may be increased or decreased as per the doctor's advice).

Before doing *yagya*, barley, *ghee*, organic *guḍa*, *til* and rice are mixed in the special *havan sāmāgrī*—in proportions as indicated above for alleviation of Stress.

To Control & Cure Epilepsy and Convulsions:

Make coarse dry powder of the following in equal amounts:

Apāmārga-seeds, *Aśwagandhā*, sweet *Bacha*, *Brāhmī*, *Champaka*, *Chhāḍa-Chhādīlā*, *Dāru Haldī*, *Dhūpa*, *Gokśarū*, *Gurūchi*, *Gūgala*, small *Ilāyachī*, *Jaṭāmānsī*, *Kamal Gaṭṭā*, *Kanera*-flower, *Kulanjana*, *Kūṭha*, *Mulaiṭhī*, *Muśtā*, Mustard-seeds, *Nāgarmothā*, black Pepper, *Rāi*-seeds, Rose-flower, *Sāṭhī*, *Śankhpuṣpī*.

Fine powder of these is also prepared and further filtered through a cloth. Two to three teaspoon of this is given to the patient with water or milk every morning and evening. (The dose may be increased or decreased as per the doctor's advice). This preparation may also be used in case of anxiety or tension driven depression.

Treatment of Insomnia:

Yagya to uproot insomnia is done using special *havan sāmāgrī*, which is a dry coarse powder of the following in equal proportion.

Bhārangi, Brāhmī, Jalakumbhī, Jaṭāmānsī, Kākajānghā, Mālkāṅganī, Pīpala-roots, Sarpagandhā, Sugandhakokilā, Śankhpuṣpī.

It is also prescribed that every morning and evening the patient should eat two to three teaspoons, or as prescribed by the doctor, of a very fine (and filtered through a cloth) powder of the above with ghee or sugar.

***Yagya* as Brain-tonic:**

It is a unique distinction of Vedic science of holistic healthcare that methods are devised not only to cure or heal the diseased or disorderly system, but also to further refine and strengthened the other otherwise normal mind-body system.

The following applications of *yagya*-therapy are excellent means of augmenting one's mental and intellectual potentials.

In both of the following cases *yagya* experiment is performed in a manner guided in Sec. 1.5 using a 1:1 mix of the common *havan sāmāgrī* and special *havan sāmāgrī*. The constituents of the latter are as described below.

Additional Prescription:

A fine powder of the special *havan sāmāgrī* (or only of the *Saraswatī Panchak*, as the case may be) is also prepared and filtered through a cloth. This medicine (brain-tonic) is kept separately in an airtight bottle/container and eaten with honey every morning and evening much before eating anything else. The normal dose for children is one teaspoon and that for the adults is about two to three teaspoon. However, it is advised that the dose be planned after consulting an Ayurveda expert.

In these *yagyas* (for apparently healthy mind) *āhutis* are offered in the *yagya*-fire with the chants of the *Saraswati Gayatri Mantra*.

The *Saraswati Gayatri Mantra*:

Om Saraswatyai Vidhmahe, Brahmputryai Dhīmahi, Tanno Devi Prachodayāt|

To Sharpen a Dull Mind:

Special *havan sāmāgrī* in this case consists of dry coarse powder of the following in equal proportion.

sweet *Bacha*, *Brahmdandī*, *Brāhmī*, *Gorakhamuṇḍī*, *Maṇḍūkapaṇī*, *Mālkāṅgaṇī*-seeds, *Śankhpuṣpī*, *Śatawar*.

To Enhance Memory & Intellectual Strength:

Pandit Shriram Acharya had guided a plant medicinal preparation, called *Saraswatī Panchak*, as an excellent brain tonic. It consists of finely grinded and filtered (through a cloth) of the following in equal amounts.

sweet *Bacha*, *Brāhmī*, *Gorakhamuṇḍī*, *Śankhpuṣpī*, *Śatawar*.

Any one who eats two to three teaspoons of *Saraswatī Panchak* twice a day with milk or with milk sweetened by *miśrī* and does *yagya* as described above using the following as special *havan sāmāgrī*, he/she enjoys a sharp and alert mind.

Special *Havan Sāmāgrī*:

Coarse powder of the following in equal proportions:

Sweet Bacha, *Barley*, *Brāhmī*, *Ghee*, *Gorakhamuṇḍī*, *Guḍa*, *Rice grains*, *Śankhpuṣpī*, *Śatawar*, *Til*.

Yagya for Vitality and Immunity

The 'seed' of bio-potency, stamina and resistance (against sickness) of a person, which is also the source of bio-energy, is termed as "*ojas*" in the Vedic scriptures. This is the radiance of life-force reflected in one's aura, meridian energy, bio-magnetism and overall charm of personality.

In terms of bodily health, Immunity and Vitality together are referred as *ojas* in the ancient text of Ayurveda and *ojas* is regarded of paramount importance as crucial expression of life-energy. The importance of immunity and vitality in vigorous health is well recognized in the recent times by the modern medical science as well. This is why the reductionist's approach of Allopathy, which in its nascent stage focused mainly on killing the germs of diseases and later on widened its scope to diagnosis and cure of the malfunctioning organs or components of the body, is now going for deeper analysis at the cellular and biochemical levels.

In the Vedic Age, the scientists-scholars-sages (*rishis*) of India used to perform *yagya* as part of the spiritual experiments of inner enlightenment and self-elevation and also as supportive means in the projects of social upliftment and national development. The energy and physicochemical effects of *yagya* were extensively used by them for purification of environment, enhancement of rainwater and healthy elements in air-water-soil, and for physical and mental cure and overall well-being of the people. Today when incidence of dreaded diseases and the chances of falling ill are increasing on fast track and the adulterated food and polluted surroundings and stresses of life are sapping our strength and stamina like a slow poison, we need eco-friendly and cost-effective modes of healing.

Yagyopathy or *yagya* therapy is an aptly suitable therapy in these respects as it has enormous potential of augmenting vitality and immunity of the body and strength and energy of the mind. Before we look into how to perform such *yagyas* and with what Ayurvedic preparations, we must also know what generates and sustains the vitality and bio-energy in our mind-body system and what the ancient scriptures, the research-treatises of the *rishis* reveal about this subtle stream of *prāṇa* (vital spiritual energy).

The 'seed' of bio-potency, stamina and resistance (against sickness) of a person, which is also the source of bio-energy, is termed as "*ojas*" in the Vedic scriptures. This is the radiance of life-force reflected in one's aura, meridian energy, bio-magnetism and overall charm of personality. This natural element of *prāṇa* enables the normal functioning of our brain, nervous system, the senses and other components of the body at cellular and molecular levels and also governs the immune system and 'intelligent' information-transmission in biological and physiological processes. The higher the *ojas*, the more vigorous, vibrant, enthusiastic and capable would be the person. The lesser this element,

the weaker, duller, sicker one would become and get more prone to the attacks of viral infections and other diseases and disorders.

Hard work does not reduce the *ojas*. In fact it is drained out profusely in sensual pleasures, luxurious comforts and erotic thinking, imaginations and sexual excitations. *Ojas* is also the essential energy of *kāma* (the sex-element and also the seed of joy, zeal and all creative potentials) therefore it is sometimes referred as *śukra* or *raji*. Being the most prominent manifestation of *prāṇa*, it is also referred as *prāṇa*, life-energy, etc. Ayurveda – the Vedic Science of (healthy) life emphasizes on preservation and enhancement of *ojas* for healthy, happy and vibrant life.

Sutra Sthanam (30|9-11) of Charak Samhita states – “*Ojas* nourishes all living beings, no one can survive without it. Before the formation of the zygote (egg-cell), it remains subtly present in the bio-energy of the sperm and ovum (whose conjugation leads to the formation of the zygote). Its force manifests with greater potency in the somatic cells of the foetus and is expressed fully with the development of the brain and heart of the infant in the mother’s womb. It is this *ojas* in the heart that enables the activation of intrinsic nature (via the genes) of a being. The reactions and functions in the physical body are also governed by its energy. It flows with the blood and nourishes all components of the body. It also lies in all other fluids of the body. The ligaments, the lubricants, the intra- and extra- cellular substances, all (bio)chemicals, eletro-chemicals and neurophysiological and other body functions are activated by the force this element of *prāṇa*.”

Nidan Sthanam (6|1) of “Charak Samhita” states:

Āhārasya Param Dhāma, Śukram Tadrakśyamātmanah |
Kśayo Hyasya Bahūna Rogānmaraṇam Vā Niyacchati ||

Meaning: Whatever nourishing food one eats, that helps enhancing the strength of vital elements energized by *ojas*. This source of all energy of sex-element and vigorous activities should be protected because its loss gives rise to weakness, proneness to attack of diseases and if left unchecked it may lead to irreversible sliding down towards death.

Ashtang Hradya (11|36) of Sutra Sthanam cites:

Ojastu Tejo Dhātunām Śukrāntānām Param Smṛatam |
Hradayasthamapi Vyāpi Dehasthiti Nibandham ||

Meaning: From *rasa dhātu* (bio-fluids and other essential biochemicals) to *śukra dhātu* (hormonal secretions), the power of every element, every flow (transmission and transportation) in the body is the *oja* (*ojas*) – the radiance of vital energy. Having its subtle core in the heart, this *oja* is spread everywhere in the body and is the base of all functions of its living state. This is the principal cause of different sensations and activities and reactions of the living being.

The crucial role of *ojas* is further elaborated in Sutra Sthanam (15|23) of “Sushruta Samhita” as follows:

Rasādīnam Śukrāntānām Dhātunām Yatparam Tejastat |
Khalvojastadeva Balamityucyate Swasāstra Siddhāntāt ||

Meaning: The force of all metabolism, all reactions from those of *rasa dhātu* to *śukra dhātu*, the essence of all which originates the radiance of liveliness is *ojas*. This is the strength (*bala*) of a living being. The energy of sex-element is essential for physical strength and strength is necessary for all activities of life. Therefore the drainage of sperm or ovum and more importantly, the loss of *ojas* should be prevented to sustain strength.

According to Ayurveda, what we eat gets converted into *rasa* after metabolism. *Ras* makes blood, blood enables formation of *mānsa* (flesh

and tissues), *mānsa* makes *meda* (lymph, serum, etc), *meda* produces *asthis* (bones and ligaments), *asthi* contributes to generation of *majjā* (marrow) and *majjā* to that of *śukra* (semen, hormones, seed of strength). Augmentation and protection of *śukra* adds to the *ojas* – the expression of *prāṇa* in the body. In other words, *ojas* is the essence of the existence and reaction of all the *dhātus* (namely, *ras*, *rakta*, *mānsa*, *meda*, *majjā*, *śukra*; i.e., bio-fluids, blood, serum, lymph, flesh, marrow, semen, etc). As *ghee* (clarified butter) exists in milk, juice in sugarcane, oil in sesamum-seed, *ojas* is subtly assimilated in all the *dhātus*.

The experts of Ayurveda describe that *ojas* is spread everywhere in the body. Higher level of *ojas* makes one strong and courageous. Not only physical or biological health, but the smoothness and glow of skin, glaze of face, grace of personality, clarity, melody and intensity of voice, intellectual trenchancy, mental stability, efficiency and concentration, and alacrity and freshness in work, etc also depend upon *ojas*. In short, the body and conscious and unconscious mind are all run by this element of *prāṇa*.

It is said that longevity may be attained by increasing the *ojas*. But the non-availability of original text in the modern times, these methods are no longer known to any one except some great Himalayan *yogis* and spiritual masters. However, one can still benefit a lot from the knowledge available today. We may protect our *ojas* mainly by following the simple guidelines on daily routine (including tooth-brushing and bathing habits) and diet as advised in Ayurvedic scriptures. These in the context of the constraints of today's lifestyle are presented in^[14-15]. Some *yogasanas* and *pranayams*^[16] help increasing its level in a natural way to augment the joy of healthy and happy life with higher stamina and resistance against the hoards of microorganisms and viruses that have made life miserable these days.

The pollutants dissolved in air and drinking water would gradually diminish our *ojas* every day. What we are eating as fresh leafy vegetables, fruits, grains, etc are also no longer as nourishing as they used to be until a few decades ago. On the contrary, the use of chemical fertilizers and pesticides and ever increasing pollutants and bacteria in the soil are toxicating and infecting our 'home-made' food too in an indirect and dangerous way. The rising trend of respiratory problems and several of the cardiac ailments and wide varieties of metabolic disorders, skin diseases and problems of liver, lungs, kidneys, gall bladder, intestines, etc are offshoots of these hidden causes. In Ayurvedic terminology, these negative factors adulterate and damage our *mānsa* (flesh, tissues) *majjā* (marrow) and other *dhātus*.

Given that we cannot change the world, the atmospheric environment and the ambience of negativity around us, the only way to remain healthy is to enhance the *ojas* and hence strengthen all the *dhātus* and also the normal functions of mind-body system, especially the acquired immunity or our natural defense mechanism to counter the challenges of health-hazards. This is all the more important for those above the age of 35 years, because, as per the modern and ancient medical sciences, the immune system begins to lose its 'intelligence', 'vigilance' and 'power' to prevent and kill the harmful invasions in the body. The youngsters also need to be careful because of the fact of their being born with relatively lesser *ojas* (as compared to their elders), and because of growing in an *ojas*-reducing environment. Natural herbal healing with the help of *yagya* offers all of us the much sought for remedy and support to enhance our *ojas* and hence our vitality and immunity.

As most of us know, vitality is a collective indicator of stamina or vigor and verve of the body and strength, alertness and zeal of the mind. Adequate breathing in of fresh air, consumption of pure drinking water, and balanced intakes of nourishing food intakes, substantial

physical exercise and rest are considered most important factors in maintaining the physical stamina. However, for vitality, the calmness of mind and emotional balance and hence righteous attitude and holistic self-management are also important.

Thus directly or indirectly one's intrinsic tendencies and surrounding environment (both atmospheric and social) influence one's vitality. Spiritual attitude and holistic approach to health as prescribed in Ayurveda appear to be best solutions to augment and maintain vitality. Doing *yagya* every day is a practical remedy in this regard. But this preventive measure alone would not work unless one checks out the causes of loss of vitality.

The most severe and frequent cause of drainage of vital energy is uncontrolled sexual excitement and erotic thinking. Those desirous of vibrant and vigorous health and mental stability must observe chastity of thoughts and conduct. It is also important for protection of vitality that the resistance against the hazardous effects of air-water pollutions and adulterated or chemically treated or preserved vegetables, fruits, food grains and cooked food is increased. This requires healthy functioning of the immune system. In case of lack of stamina or resistance against infections, it is the immune system, which protects its further loss and helps in regaining it.

The Immune System:

Advancement of the modern research has made it clear that it is the individual's immune system which plays a key role in body's defense mechanism and the response to drug regimen. The reason why some people are so susceptible to the change of weather, viral infections, etc is because of their weak or deficient immune system. The success of well-established techniques of anesthesia, surgery, artificial organ

transplant, etc also depends upon how the patient's immune system responds to these.

The futuristic therapies based on genetic engineering would not become a reality unless the compatibility with natural immune system is thoroughly tested. The immune system defends the body against all harmful invaders – including viruses, other microorganisms, proteins, and other chemicals. Its 'soldiers' in the form of B-lymphocytes and T-cells are spread all along the body and produce specific antibodies to counter the antigens (foreign molecules).

Nature's intelligence is imbibed in this system so wonderfully that it not only recognizes the difference between the '*self*' (i.e. natural elements of one's body) and the '*non-self*' but also has memory of the antigens it has been ever attacked in the past. It is more efficient in destroying the invaders if the latter enters the body for the second or more time. It is this learning and decision-making capacity of the immune system which gives rise to 'acquired immunity'. It is because of this capacity that vaccination prevents the occurrence of diseases. Lack of this capacity or deficiency is what we know as the most dreaded, killer disease AIDS (Acquired Immuno-Deficiency Syndrome). It is nothing but what the Ayurvedic scriptures refer as "*upārjita oja-kśaya sanlakśaṇa*" This loss of *ojas* means lack of vigor and inability of the defence mechanism of the body to resist the attack of toxic, infectious, harmful molecules, pathogens or bacteria and viruses of any kind.

While in the womb, vital elements in mother's blood nurture the foetus. However, learning of its immune system and hence the acquisition of immunity begins from the moments the infant is born and exposed to the outer atmosphere. In normal state it continues to grow in the youth. Its efficiency reduces in old age but can be maintained at substantial levels if, from the young age one takes

balanced healthy food and follows disciplined routine with yoga exercises of *āsanas* and *prāṇāyāms* which enhance *ojas*. However, in case of reduced vitality and deficiency of immunity that is a common scenario these days, therapeutic *yagya* offers excellent remedy and healing support.

According to modern medical science *oja-kśaya* (low immunity disorder) is not a disease, instead, it is a syndrome, a group of several diseases that lessen the vitality and resistance; it is also caused by the infection of a retrovirus. The antigens of this virus first attack the white blood corpuscles (WBC), which are like frontline warriors of immune response. It then kills the helper cells (T_4 cells) and eventually paralyses the immune system. Consequently, varieties of other bacteria, viruses, fungi, other parasites, etc get a chance to enter the body without any opposition and give rise to hoards of diseases. The most frequent diseases thus occurring are diarrhea, high-fever, pneumonia, tuberculosis, C-sarcoma (tumor of blood vessels), etc. The immediate symptoms of low immunity disorder are – loss of weight, excessive fatigues, drowsiness, loss of appetite, skin infection, chronic cough, ulcers or boils in the mouth, acute headache, swelling of lymph nodes, unusual viral fever, etc.

Immuno Deficiencies:

AIDS as well as low immunity disorder syndrome (LIDS) have posed unyielding challenges before the world today. As a result, a patient of these syndromes practically becomes host to any kind of disease. Even minor infections or diseases would continue to persist, aggravate and gradually weaken his body so much so that he might eventually die in few months unless due precautions in terms of careful diet, protection from all kinds of bacteria and viruses and from insect bites, and strict medication under the guidance of a specialist doctor are taken.

Bio-fluids being the carriers of the noxious HIV virus that causes these syndromes are spread through transfusion of infected blood and sexual intercourse with infected person. It is perhaps to prevent the chances of such pathetic health-hazards, that our sagacious ancestors – the *rishis*, had repeatedly cautioned (*c.f.* original texts of Ayurveda, for instance) against undisciplined life-style. They had emphasized on prudent control of *āhāra* (eating and drinking) and *vihāra* (sensual pleasures).

Unfortunately, our life-style today is dominated by comforts and quick and easy pleasures. Most people are not even aware of the fact that their *āhāra-vihāra* decides the fate of their health. Experts too seem to be focused more on cure than prevention. Best laboratories the world-over are researching today to develop a vaccine to prevent the activation of the viruses that are the cause of AIDS or LIDS and to produce effective medicines to kill these or stop their growth. In spite of some encouraging steps, the goal is far from sight. Incorporation of complementary medicines therefore seems essential in the given circumstances, especially in the developing and highly populous countries like India where significantly large numbers of HIV-infected people or people suffering are among those deprived of medical facilities and are the ones living under highly infection-prone conditions.

Among the time-tested complementary therapies, Ayurveda has proved to be the best choice, as the Ayurvedic texts present powerful remedies against *oja-kṣaya*. The prescribed preparations are mostly *rasa* (+*rasāyanas*), *bhasma*, *avaleha*, *pāka* and *ghṛta* and *chūrṇa* of selected herbs/plant medicines.

These preparations consist of — (i) *Chūrṇa* (fine powders) of *Aśwagandhā*, *Śatāvra*, *Vidārikanda*, *Giloya*, *Nīma*, *Panchāṅga*, *Tulasī*, *Mūsali*, *Akarakarā*, *Mulaiṭhī* etc; (ii) *Avaleha* of *Aśwagandhā* and *Chyavanprāsha*; (iii) *Chopachini Pāka*; *Jivantādyā Ghṛta*, *Triphala*

Ghrata, *Panchatikta Ghrata*; (iv) *Bhallātaka Rasāyana*, *Brāhmi Rasāyansa*; (v) *Āsavas* of *Kaiśora*, *Gūgal*, *Kanchanāra Gūgal* and *Sārivā* and *Daśamūlāriṣṭa*; (vi) combined *Bhasma* of Mercury and Sulphur; and (vii) *Bhasmas* of Gold, Copper, *Yasāda*, *Nāga*, *Hartāla*, and *kaśisa*; *kalyāna*, *Sundarabhra Rasa*, *Swarṇabasant-malati rasa*. These should be taken with *Zaharmoharā Piṣṭi* and *Prabāla Piṣṭi*.

The meaning of the terms *Avaleha*, etc are given in the book listed^[14-15] in the References. Ayurvedic pharmaceutical books should be referred in consultation with the doctors (*vaidyas*) for details on method of preparation and doses etc.

It should be noted that except the fine powders, all other preparations listed here require specific expertise. Only countable number of *vaidyas* (Ayurvedic doctors who follow original approach of this Vedic science) today would know the exact methods of preparations of *bhasma* and *rasayanas*. Moreover the methods of preparations require no use of machines and are so tedious that even under proper guidance of such Ayurveda-experts hardly any herbal pharma-lab would be able to produce these medicines in precise form. (Most of the terms used here are technical pertaining to original texts of Ayurveda. Therefore, English analogues are not available). Another major constraint is that the dosage, mode of consumption, necessary diet restrictions, etc vary from patient to patient depending upon the latter's natural constitution and the type and extent of the disease/syndrome. The treatment should thus proceed under adept guidance of an experienced *vaidya*.

However, *Yagya*-therapy does not require such constraints because only coarse powders of specific herbs/plant medicines – as listed underneath – are to be used in the *special havan sāmāgrī*. So any one who has ever participated in a *homam* or *yagya*, can do it without any difficulty or risk. The special *havan sāmāgrī* should be mixed with equal

proportion of the common *havan sāmāgrī*. Little amounts of *ghee* (clarified butter) prepared from cow's milk, molasses, *til* (sesamum seeds), barley and rice grains are also mixed in it. At least 24 *ahutis* (sacrifices in the *yagya*-fire) of this preparation should be made with chanting of the *Surya Gayatri Mantra*.

This *yagya* experiment should be performed by the patient(s) twice a day — once around the sunrise time and later little before the sunset time. Soon after the *ahutis*, the patient(s) should practice the deep breathing exercise of *prāṇākarṣaṇa prāṇayāma* for 15-20 minutes sitting at the same place. While exhaling one should feel as though all the weakness, viruses, bacteria and their harmful effects are being thrown out and are being eradicated by the *yagya* output. Inhalation (breathing in) should be accompanied with a sincere feeling that the vital spiritual energy and medicinal output generated by *yagya* is entering the body and being absorbed by its every component and elevating the *ojas*. Healthy persons may also participate in the same *yagya*, as sitting near the *yagya*-fire and breathing in the *yagya*-treated air would benefit everyone.

For faster remedial effects the patients should also drink of the decoction of 5-6 teaspoons full of fine powder of the Ayurvedic medicines used in the preparation of the special *havan sāmāgrī*. The decoction should be prepared fresh in the morning. Some honey may be mixed in it if the patient finds the taste bitter. The patient should drink half of it empty stomach in the morning and remaining half around 4pm. (Care should be taken to keep the decoction in cool condition so that it remains fresh till that time. Else, fresh decoction should be prepared for the second dose as well).

The method of preparation of the decoction has been described in the books^[14-15] listed in the References. If necessary, readers may send

their queries to shantikunj@awgp.org or write to Manager, Shantikunj, Hardwar: 249411 India.

List of herbs/plant medicines used in the above referred special *havan sāmāgrī* to augment *ojas*:

Akarakarā, Amalatāsa, Araṇī, Arjuna, Aśwagandhā, Atibalā, Ānvalā, Bhui Ānvalā, kaḍavi (bitter) *Atīsa, Bacha, Bahedā, Bhārangi, Bilva, Bhunjātaka, Brāhmī, Chiraunji, Chirāyatā, Chitrak-chhāla, Dārū Haldi, Devadāra, Dūrvā, Giloya, Gokṣaru, Gorakhmunḍī, Gūgala, Haritikā, Indrajau, Indrāyaṇa-mūla, Jalanīma, Jaṭāmānsī, Jīvaka, Jīvantī, baḍī* (big) *Kaṇṭakārī, chhoti* (small) *Kaṇṭakārī, Kālamedha, Kālīmircha, Kānchabīja, Kāyaphala, Khādira-chhāla, Kuṭakī, Kūṭha, Makhāna, Manjiṣṭha, Maṇḍūkapaṇī, Meṣasrangī, Mothā, Mulaithī, kāli* (black) *Mūsali, sapheda* (white) *Mūsali, Mūrvā, Nīma-chhāla, Padmākha, Palāśa, Panchānga, Patola-patra, Pāḍhala, Pippalī, Pittapāpaḍā, Punarnavā, Rāsnā, Sapatapaṇī, Sonapāṭhā, Sonṭha* (dry ginger), *Śāla-chhāla, Śankhapuṣpī, Śatāvara, Tālamakhāna, Trāyamāṇa, śyāmā Tulasī* (black basil), *Turmeric, Tuvaraka-bīja, Utangana, Vāsā, Viḍanga, Vidārikanda.*

All these should be well cleaned and dried before grinding. Equal amount of all these medicines is used except *kaḍavi atīsa*, the amount of which should be one-fourth of that of the others. Doing *yagya* regularly at the same time, at the same place as described above would gradually enhance the *ojas*; on an average, within a month the patient will begin to regain the resistance and strength to counter the diseases. Following adequate disciplines of *āhāra* and *vihāra*, she/he will enjoy a vigorous and happy life.



Recent Research Findings

In this Chapter we outline the key results of thorough scientific studies carried out as parts of recently completed PhDs at Dev Sanskrit University, Haridwar and allied institutions.

12.1 Chemical & Pharmacological Aspects of *Yagya*-therapy: Study of Pulmonary Tuberculosis

Since nearly half a decade, there have been several reports on healing of some psychosomatic problems using *homa* therapy (*agnio*-therapy). This incorporates special kind of *agnihotra* at sunrise and sunset time using dry cow-dung for fire and sacrificing *ghee* prepared from cow's milk. Some web articles cite healthy effects of this practice. However, all these studies present only the patient's experiences in the form of anecdotes or one or two individual case-studies without any scientific analysis.

Pulmonary Tuberculosis is a major public health problem across the globe. Every year about eighty thousands new cases are reported in India alone. The high frequency of drug-resistance, complications of

sequential updating of multiple drug-regimen and side effects like hepatotoxicity, etc limit the efficacy of its treatment by modern medicines. Ayurvedic herbal medicines are found to be effective, but oral administration of these is usually slow in desired healing.

Because of repeated rhythmic chanting of *mantra* and deep breathing, oral and nasal inhalation of medicinal vapors/gases/fumes (released from the processing of the herbal plant medicinal preparation in the *yagya*-fire) occurs naturally during *yagya*. Thus, *yagyopathy* (*yagya*-therapy) enables pulmonary administration of the herbal medicines and is therefore expected to be a more efficient mode of healing in case of pulmonary diseases in general and pulmonary tuberculosis in particular.

Thorough scientific evaluation of this ancient therapy in the treatment of pulmonary tuberculosis was the principal objective of the research work carried out by Dr. (Ms) Meenakshi Raghuvanshi^[6, 10-12] as part of her Ph. D. (Guides: Dr. P. Pandya, Chancellor DSVV and Dr. Rajani Joshi, Professor, IIT Bombay).

The *yagyopathy* experiments in this study were conducted using the fire-pit in the shape of “*Padma Kuṇḍa*” which is constructed in the center of the *Yagyopathy* Lab of the Brahmavarchas research centre, Shantikunj, Hardwar. The size of this *kuṇḍa* is approximately 6 to 7 times (in cross sectional area of the successive layers from top to bottom) that of the *agnihotra-kuṇḍa*. [The dimensions of the “*agnihotra kunda*” often used in daily *yagya* (*havan*) at home are: 14.5 cm x 14.5 cm. at the top; 5.25 cm x 5.25 cm at the bottom 6.5 cm. in height with three steps]

The lab is surrounded by glass walls with appropriate facilities of controlled ventilation and exhaust through the roof which can be connected (at the terrace of the lab) to desired instruments for collection and analysis of the released medicinal fumes/gases/vapors etc. The lab

is maintained in clinically necessary clean conditions. It is surrounded by green plants with a pollution-free and calm environment.

Dry powder prepared using the anti-tubercular preparations recommended in Ayurvedic scriptures were used as *havan samagri* for sacrifice in the *yagya*-fire. The botanical and chemical properties and the antitubercular activity, antibacterial activity and immunomodulatory activities published in modern scientific literature were thoroughly reviewed. Due care was taken to assure best type and quality of the herbs.

Detailed chemical analysis of the thermal transformation and slow-combustion process of *yagya* was studied together with the possible reactions and release of important phytochemicals and their anti-bacterial (including anti myco-bacterial), immunomodulatory and other important activities and synergistic and antagonistic effects of total herbs.

Some significant findings of this chemical study are –

- Some of the aromatic compounds and lower fatty acids are mechanically carried over in the surroundings by the (medicinal fumes) of *yagya*, which acts as a colloidal vehicle.
- The combustion of fatty substances gives a number of hydrocarbons and other chemicals: from glycerol portion a r e obtained acetone bodies, pyruvic aldehyde, glycol, glyoxal etc, most of which are anti-bacterial.
- More than hundred phytochemicals found in the plant icines used in above *yagya* have significant anti- microbial activity.
- Over twenty other phytochemicals with strong anti-tubercular activity, namely are found as most likely constituents of the medicinal fumes/gases/vapors of *yagya*.

- The temperature being sufficiently high and varying between wide limits, the substances with boiling points between 200-350 degree (°C) vaporize and diffuse out. This class includes various oils from sandalwood, agars, sesame, *deodar*, various **terpens** and aromatic compounds of high boiling points. Large number of terpens (such as borneol, geraniol, nerol, terpenol, etc) are found in *yagya*-output. Many of these are also reported to have anti-mycobacterial activity.
- The accepted models of different modes of action of terpenes against bacteria suggest that the terpenes could — Interfere with the phospholipids bilayer of the cell membrane, Impair a variety of enzyme (HMG-reductase); Impair and Destroy or inactivate genetic material. Although chemically different, the second reaction would be similar in its effect, to Isoniazid activity via catalase-peroxidase KatG.
- Importance of Using Whole Herb — Apart from synergy there are many sound reasons to explain the difference between the actions of isolating chemicals and that of whole herbs. For example, sometimes the presence of the whole plant material, which may contain antioxidants, may 'protect' the actives from decomposition; similarly, the essential oils released during *yagya* work as carriers for the active compounds to reach the lungs via inhalation.
- The oxidation of the hydrocarbons in the cellulose-rich wood and the plant medicines used in *yagya* produces carbon dioxide and water in controlled amounts so that these could support co-administration of charcoal (and thus prevent oral absorption of the medicines inhaled during *yagya*) and also act as rejuvenating stimulants.

- Mycolic acid has long been a popular anti-tuberculosis drugs target. Mycobacterium Tuberculosis possesses a remarkable range of lipophilic molecules unrivalled in the prokaryotic world. New discoveries reported in literature open a new field to investigation of drug targeting where the primary targets are not crucial enzymes involved in biosynthesis but rather crucial enzymes involved in degradation. Strong possibility of presence of lots of lipophilic

compounds in *yagya*-output and some of which in view of recent discoveries on related genes, can inhibit the growth of *M* Tuberculosis, further supports the therapeutic potential of *yagya*.

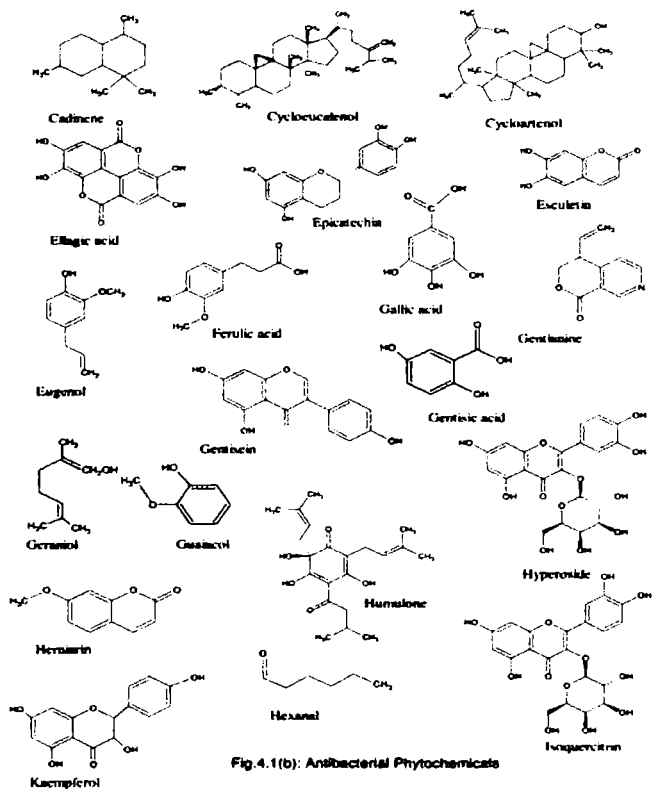


Fig.4.1(b): Antibacterial Phytochemicals

Figure 2: Structure of some anti-

tubercular phytochemicals released by some plant medicines used in our *yagya* experiments.

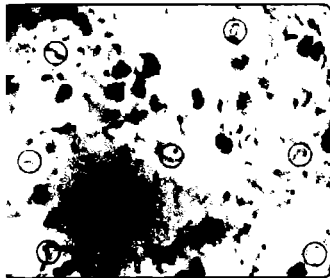
In-vitro Experiments and Clinical Trials:

As the *in-vitro* experiments and clinical trails show significant effectiveness of *yagya* for Pulmonary Tuberculosis treatment, and even on resistant cases, it appears that the overall mechanism of action of the products of *yagya* is different from the modern medicines. Investigations into these possibilities would be a crucial research project in advanced therapeutic research in *yagyopathy*.

Two experiments were conducted on some commonly found air-born microbes (including E.coli, Pseudomonas, Streptococci, and few Fungi strains). The samples exposed to *yagya* for few minutes showed about 70% reduction in growth as compared to the control cultures of the same bacteria which were exposed for same time to a slum area away from the place of *yagya*.

Several experiments were also conducted on samples from the sputum of patients who were diagnosed positive in the AFB (*acid fast bacilli*) test. These Mycobacteria (M. tubercular) were cultured on two sets of solid Lowerstein Jensen medium slant and liquid Kirchner medium. One set from each patient's sample was used as control and two others as experimental-I and experimental-II. *Yagya*-output (medicinal vapors/gases/fumes) was passed in experimental-II samples for about 35-40 minutes using SKC Air check 2000 air sampling pump and high flow vacuum pump. The latter was obtained from PCRI at BHEL Hardwar. Experimental-I samples were treated similarly by the output of burning the same amount of medicinal wood in the sample lab for same duration of time, but without performing any *yagya*. The control samples were not treated with *yagya*. After incubation at 35-37°C for eight weeks, the growth in the sets treated with *yagya*-output was found to be about 75% less as compared to the control samples. This reduction was only about 15% in the samples treated by burning only the wood. (Fig. 3 presents some results).

um Control Sample:



n Growth:



n Growth:



; on Mycobacterium samples.

Clinical Trials:

In order to evaluate the pharmaceutical potentials of *yagyopathy* on humans, thorough clinical trial study was conducted on 15 patients (5 females and 10 males) of Pulmonary Tuberculosis in the age group of 15-60 years. Seven of these were not taking any other medicines, while others were on some allopathic medicines – two of whom had become resistant to allopathic drugs. The allopathic drug-resistant cases included an (statistically) outlier case having the disease at advanced state with acute lung-fibrosis.

The *yagya* experiment was performed in the *yagyopathy* lab Brahmvarchas Research Centre, Shantikunj, Hardwar using the anti-tubercular herbal preparation of Ayurvedic plant medicines. The *yagya* used to be performed for 30-45 minutes every day with repeated loud rhythmic chanting of the Gayatri Mantra during the process of *āhutis* and deep breathing for few minutes after the *āhutis* (sacrifices of measured quantity of herbal/plant medicinal preparations in the *yagya*-fire) were completed. Duration of regular participation of a patient was about 35 to 75 days depending upon the clinical trials based on the sequential readings and statistical pattern of changes.

The effects were tested by sequential readings (per 10 to 20 days as per the bio-statistical design) on different clinical physiological, microbiological, haematological, biochemical and pathological (including chest radiography) parameters of importance w.r.t. modern standards of diagnosis of pulmonary tuberculosis.

Similar kind of study was made on a control group of ten patients; all of whom were under allopathic medication. The control group was comparable with the experimental group (without the outlier) in terms of age-group, gender ratio, state of disease, locality etc, but no patient

in this group participated in any *yagya*. Sequential readings on the above parameters were taken in manner similar to those in the experimental group. However, the results on changes in the important symptoms and signs (including the pathological, radiological and pulmonary parameters) were neither clinically nor statistically significant. (Fig. 4 shows results on some key parameters).

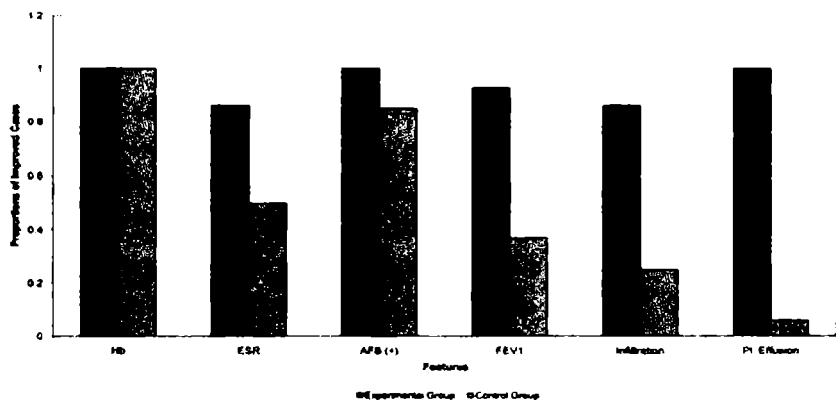


Figure 4: Comparison of some key parameters in control and experimental groups of patients after the later were treated by *yagya*. (c.f. [10-11])

Pharmacakokinetic Evaluation:

Physiological type compartment models for pharmacokinetic (PK) analysis of *yagyopathy* as a mode of pulmonary drug administration is also carried out. Its performance is compared with the oral and intravenous (*i.v.*) drug administration by theoretical (mathematical) analysis and computational simulations using relevant data (for PK parameters such as mass transfer rate constants, blood flow rates, etc) from empirical PK studies on adult Indians.

The results show *yagyopathy* as remarkably better both in terms of residential time and drug availability at the site of action which in the case of Pulmonary Tuberculosis happens to be lungs. It is also notable

that the physiological compartment modelling, theoretical analysis and associated simulations here provide results on absolute (bio)availability rather than average estimators (as in empirical PK analysis).

While pharmacodynamic studies including controlled clinical trials in the patients are currently considered essential for testing the efficiency and safety, lung deposition data could bridge the desired link between the *in-vitro* results and the clinical trials. *In-vitro* experiments are also conducted for estimation of lung-deposition using the filter paper weights before and after exposure to *yagya*. The experiments were conducted using the SKC Air Sampler 2000, which allows only the respirable particles below 5 micron diameter to reach the filter-paper in its cassettes. The weights were measured at PCRI, BHEL Hardwar. Weights of ash remained after proper *yagya* with that of a *yagya* without *havan samagri* but with exactly the same type and weight of wood, ghee etc, were also recorded. Preliminary chemical analysis of the papers and that of the *yagya* ash were conducted respectively at PCRI, BHEL Hardwar and CPCB, Delhi.

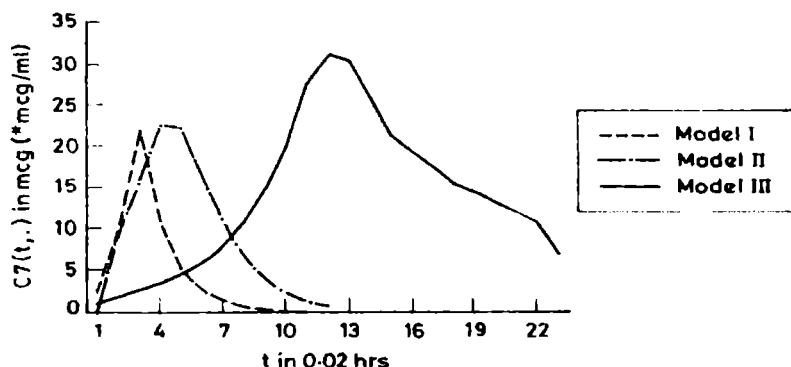


Figure 5: Time-Concentration profile of drug inside the lungs. Model I: Oral; Model II: Intravenous; Model III: Inhalation during *Yagya*. (Figure extracted from our paper [6])

The model for analysis of *yagyopathy* is comprehensive as it also takes care of the relevant anatomical as well as physiological features for the parameters associated with the pulmonary functions and inhalation based drug administration via *yagyopathy*. It also allows for using these estimates of parameters in individual patients. The simulation results using this model are compared with the real data on concentrations profiles on modern anti-tubercular drugs Isoniazid and Pyrazinamide. Here again the results of *yagyopathy* are superior in terms of bioavailability and residence time. Similar was the case while the computational results of the *yagyopathy* model were compared with those of the inhalation drugs like flunisolide having minimal oral absorption (and hence found to most effective for inhalation therapy).

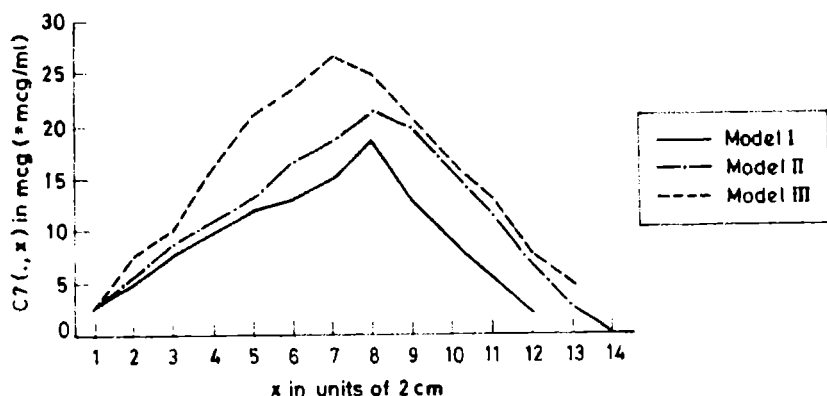


Figure 6: Drug-concentration at different depths (x) inside the lungs. Model I: Oral; Model II: Intravenous; Model III: Inhalation during *Yagya*. (Figure extracted from [6]).

Residence time and pulmonary deposition parameters are important in determining pulmonary selectivity of a drug. The results show that these happen to be maximum in case of *yagyopathy*. Also, maximum deposition in the central region with lower availability in the alveolar

region and minimal possibility of oral absorption show that most of the drug should be available for local activity in the lungs.

This pioneering research has scientifically validated *yagya*-therapy for treatment of pulmonary tuberculosis. It also highlights extensions and newer research projects for wider applications of this ancient mode of holistic healing.

12.2 Assessment of *Yagya* effects on Air Pollution:

Today the air we breathe in is loaded with harmful gases like NO_2 , CO, and respirable toxic particles (SPM and RSPM), which are all above the tolerable standards and are extremely harmful to the health. There are also new species of bacteria and virus coming up which cause new diseases and are resistant to old drugs. The wastes from the industries as well as the city is being dumped into the rivers, thereby causing severe water pollution. The indiscriminate use of pesticides and synthetic chemical fertilizers has resulted in poisoning of underground water reserves and also resulted into loss of soil fertility. And to top it all the lack of empathy of the people to these problems has made it worse. The Governments of developed and developing countries are spending huge sums for tackling this problem but not much results are seen.

In an endeavor to find some solution which is effective and long lasting for this environmental problem, the potential of '*yagya*' was assessed in the PhD research work of Dr. (Mrs.) Mamta Saxena, registered at Dev Sanskriti University, Haridwar. (Guides: Dr. P. Pandya, Chancellor DSVV and Dr. B. Sengupta, Member Secy., CPCB Delhi). All experimentation studies were carried out in New Delhi in collaboration with the Central Pollution Control Board (CPCB), Delhi.

Initially several types of wood were burnt to see the CO emissions from each of them. The emissions were recorded on digital analog. It was found that the mango wood gave almost near zero CO emission. Hence the mango wood was taken as the basic *samidhā* for the experiment. The special *Havan Sāmagrī* prescribed by Brahma Varchas, for the purification of atmosphere, was used along with the common *havan sāmagrī*. As far as possible Cow's pure ghee was used for the Havan.

In all the experiments, the effect of Yagya was studied on the atmospheric odour, on the air microflora and also on the gaseous pollutants like NO₂, SO₂ and RSPM. The effect of odour was very good as after *yagya*, the pleasant odor lingered on till the evening and a very faint smell remained till the next day (in the indoor experiments).

To study the impact of *yagya* on air microflora, several experiments were conducted both indoor and outdoor, some experiments were also conducted simultaneously to compare the effect of Yagya and that of non-*yagya* i.e. by just burning plain wood and also the effect of burning plain herbs without any rituals and mantras was studied. The effect was studied on the air microflora, bacteria, fungi and pathogens by exposing the pretreated petri-dishes to the atmosphere before the *yagya*, during the *yagya* and till three days after *yagya*. In one experiment the effect was studied till 7 days after Yagya, which was an indoor experiment.

The results were very encouraging. In all the indoor experiments there was a significant reduction in the microbes especially the pathogens. The decrease on the day 3 in the four experiments has been recorded as 100%, 67%, 87% and 93% respectively in pathogens, which is impressive. These results are supportive of the fact that *yagya* renders

the atmosphere bacteriostatic and it kills the harmful microbes in the atmosphere.

One experiment was continued till 7 days after *yagya* and it was seen that even on the day 7, there was an impressive reduction of 93%, in bacteria, 88% in fungi and 93% in pathogen, as compared to their respective backgrounds. This is a very significant result as it shows that the effect of *yagya* is long lasting and it continues till long after the physical process has been completed.

Comparison of Effects of Proper *Yagya* with that of non-*Yagya* (only Burning Wood in similar conditions for same duration):

It is a common belief that any type of fumes help in the reduction of air microbes. In the experiments of comparison of *yagya* with that of non-*yagya*, proper *yagya* was performed at one place and plain wood was burnt at another place. In both the places care was taken to keep the variability factors like temperature, humidity, number of persons, air flow etc., as constant and samples of air were taken before *yagya*, during *yagya* and till two days after *yagya*.

The results were very surprising. In the case of *yagya* where there was a reduction of 79%, 68%, 69% and 33 % respectively as compared to the background in the bacteria, fungi, TMF and the pathogens till two days after the *yagya* there was an increase of 111%, 257%, 104% and 100% respectively as compared to the background, one day after the non- *yagya* experiment (see **Figures 7 to 11**).

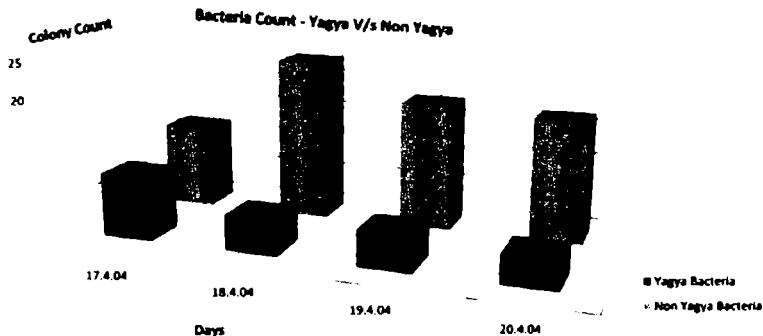


Figure 7: Comparison of Bacterial Counts for 4 days after indoor *yagya* with those in the neighborhood where only woods were burnt (non-*yagya*).

TMF count after experiment

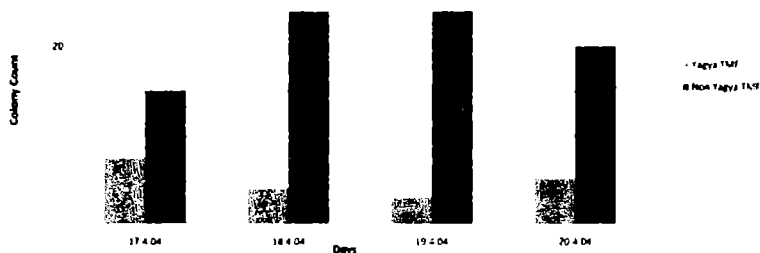


Figure 8: Comparison of TMF Counts for 4 days after indoor *yagya* with those in the neighborhood where only woods were burnt (non-*yagya*).

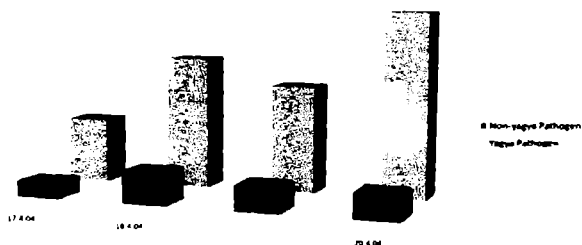


Figure 9: Comparison of Pathogen Counts for 4 days after indoor *yagya* with those in the neighborhood where only woods were burnt (non-*yagya*).

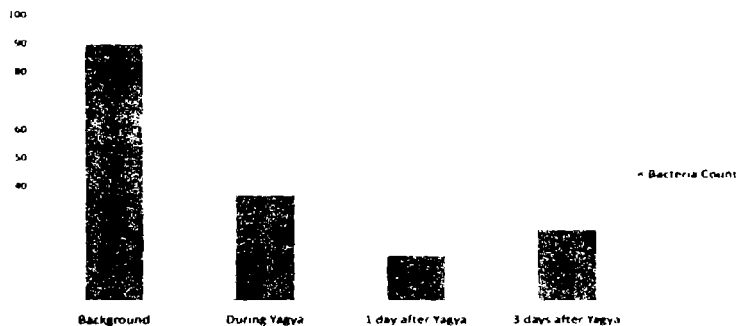


Figure 10: Comparison of aggregate Bacteria Counts for 4 days after indoor *yagya* with those in the neighborhood where only woods were burnt (non-*yagya*).

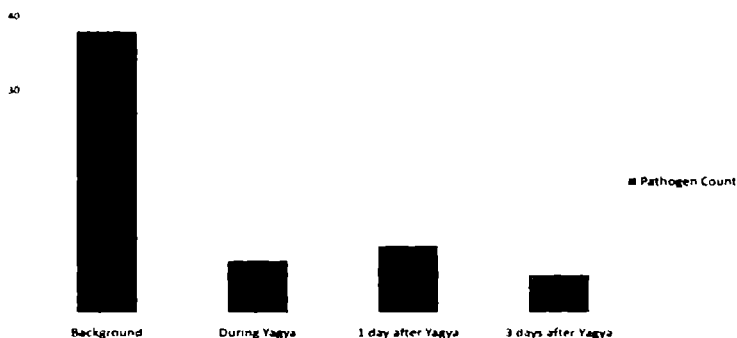


Figure 11: Comparison of aggregate Pathogen Counts for 4 days after indoor *yagya* with those in the neighborhood where only woods were burnt (non-*yagya*).

The same experiment was repeated again after one year and the results of this experiment were again similar. From the above results it can be concluded that any type of smoke/ fumigation does not reduce the air microbes in the environment. In fact the fumigation of simple wood has led to an increase in the counts in most of the cases. Whereas on the other hand the smoke/ gases produced as a result of *yagya* led to an overall decrease in the *Air Microflora* in the atmosphere.

Outdoor *Yagya* effect on Bacterial, Pathogen, Fungi and Microflora:

Another study was conducted in the open air at a place called Karawal Nagar in East Delhi where a large-scale *yagya* of 108 *yagya-kundas* was performed. The sampling was done in the same way as in the case of indoor experiments and a comparison of the microbe colony counts during and after *yagya* was made with the background. The experiment continued from 12th to 16th of *yagya* and the sampling was continued till two days after the *yagya*.

The results show that in comparison with the background counts, there was a reduction of 55% in bacteria, 15% in fungi, and 79% in the pathogens on the next day after the *yagya* was over. The reduction in pathogens was 79% even on the second day after *yagya*. The total microflora had reduced by 49% on the 2nd day after *yagya*.

Outdoor *Yagya* and Gaseous Pollutions:

In order to study the effect of *Yagya* on the gaseous pollutants, two experiments were performed in the open air. Samples of air were collected by CPCB in one case and by Envirotech in the second case and analyzed for gaseous pollutants SO₂ and NO₂. The two experiments were performed at M.S. Apartments, K.G. Marg, New Delhi, in the open air in January 2004 and February 2005, respectively.

In both the experiments the objective was to see if there was any effect of performing *Yagya* in the open air on the gaseous pollutants. The results in both the cases were encouraging. In the first experiment there was a reduction of 47% in NO₂ on the day of *Yagya* and 60% on the next day. In case of SO₂, the reduction was 86% on the day of experiment and almost 100% on the next day as the SO₂ was below detection level (see Figure 12).

Harmful Gas Levels before & 1, 2 days after Large Scale *Yagya* in Delhi

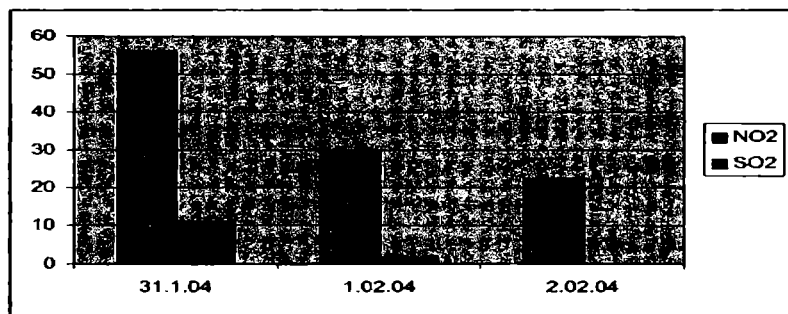


Figure 12: Level of harmful gases before and one and two days after large-scale outdoor *yagya* in New Delhi.

Similarly in the second open air experiment the NO₂ reduced by 23% on the day of experiment and was 25% reduced on the next day after *Yagya*. SO₂ was 33% below the background level on the day of *Yagya* and was 41% reduced on the 2nd day after *Yagya*. In both the above experiments there has been perceptible change in the quantum of NO₂ and SO₂, as compared to the background.

These results are also in agreement with some earlier studies carried out by Environ. Tech. Consultant, Lucknow under the supervision of UP Pollution Control Board during a grand *yagya* of 1008 *yagya-kundas* at Gorakhpur, UP [7]. The following two tables summarize the readings taken on air water within 500 Meters area around the

Bacteria Count in Water Samples

Instant	Average Bacteria Count in Water Samples of 100 ml
----------------	--

1 Day Before *Yagya* 4500

During *Yagya* 2470

1 Day After *Yagya* 1250

Level of Harmful Gases

Instant	Average Level of SO₂ (mg/sample)	Average Level of NO₂ (mg/sample)
----------------	--	--

1 Day Before *Yagya* 3.36 1.16

During *Yagya* 2.82 1.14

1 Day After *Yagya* 0.80 1.02

Some Minerals Tested in *Yagya-Bhasma*

Mineral	Concentration
----------------	----------------------

Phosphorous 4076 (mg/kg)

Potassium 3407 (mg/kg)

Calcium 7822 (mg/kg)

Magnesium 6424 (mg/kg)

Quispar 2% (w/w)

boundary of the ground where this grand *yagya* was performed for four days. The last table summarizes analysis of the samples of ash collected from the *yagya-kundas*.

All the above findings are indicative of the fact that the process of *yagya* is effective in the reduction of air pollution both gaseous and microbial and also removes the bad odor, if any, at the place. It is also seen that the effect of *yagya* remains in the atmosphere for days after it has actually been performed. Hence we see that '*yagya*' is probably the only possible solution for today's environmental pollution problems.

12.3 Effect of *Yagya* On Some Psychological Parameters:

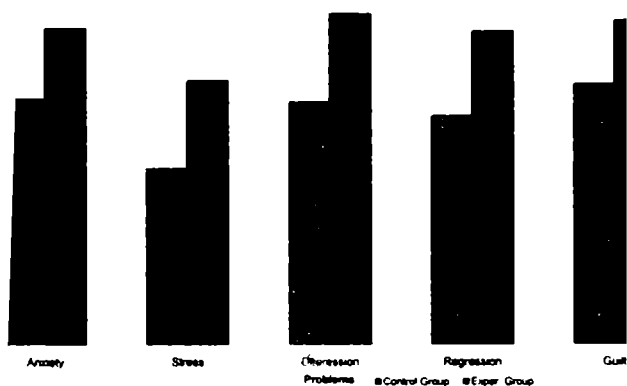
As part of the Ph. D. Thesis of Dr. Hemadri Sao, at Gurkul Kangadi Univ, Haridwar, several experiments were conducted on effect of *yagya* on adult subjects suffering from Anxiety, Stress, Depression, Regression and/or Guilt.

Such subjects in the **Experimental Group** participated in *yagya* of 108 *āhutis* of prescribed *havan sāmāgrī* with chants of *Gayatri Mantra*. This *yagya* was conducted every morning at Brahm Varchas Research Centre, Shantikunj Haridwar. Those in the **Control Group** lived in the same spiritually vibrant, calm ambience at Shantikunj, Haridwar but did not participate in any *yagya* or other experiment. There were 12 -15 subjects in each category of each group.

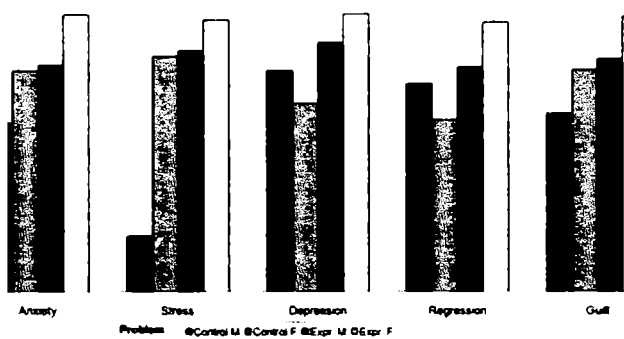
The subjects resided in Shantikunj, Haridwar for about a month. Blind-tests were conducted by expert Psychologists on both the groups in the beginning of the study and after 20 days.

Results: Overall psychometric analysis showed^[13] about 66% improvement in the **Control Group** and over 86% improvement in the **Experimental Group**. The proportion of positive response of female subjects was much higher than that of the males.

nd 14 present the summary results for different categorical problems.



Percentage of subjects in different categories whose psychological health had significantly improved. (Experimental Group: Black bars, Control Group: Green bars)



Comparison of percentages of males (M) and females (F) in different categories whose psychological health had significantly improved.

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Appendix

Table: List of Herbs/Plant Medicines cited above

<i>Afima</i> (Posta)	Opium, Poppy	Papaver somniferum
<i>Agar</i>		Aquilaria Agallocha
<i>Agnimantha</i> (<i>Ganiyāra, Araṇi</i>)	Clerodendron	Clerodendron Phlomidis
<i>Ajamoda</i>	Parsley, caraway, Bishop's weed	Carum copticum
<i>Ajavāyana</i>	Aniseed, caraway, Celery fruits	Apium graveolens
<i>Akarakarā</i>	Spanish Pellitory	Anacyclus pyrethrum,
<i>Aluā</i> (<i>Gwārapāṭhā</i>)	Barbados Aloe	Aloe barbadensis
<i>Amaltāsa</i>	Indian Laburnum, Pudding	Cassia Fistula
<i>Amarlatā</i>	Pipe	Cuscuta Reflexa
<i>Anāradānā</i>	Dodder	Apium Graveolens
<i>Anjira</i>		Ficus Carica
<i>Aparājita</i>	Figs	Clitoria Ternatea
<i>Apāmārga/ Chirchirā</i>	Winged leaved clitoria	Achyranthes Aspera
<i>Araṇya-sūraṇa</i>	Prickly-chaff Flower	Stilingia sylvatica
<i>Arjuna</i>	Wild Corm	Terminalia Arjuna
<i>Aśwagandhā</i> (<i>Asagandha</i>)	Arjun Tree	Withania Somnifera
<i>Aśoka</i>	Rap-seed plant, Winter cherry	Saraca indica/ Pllyalthia
	Mast tree	longifolia
<i>Atibalā</i>		Abutilon Indicum
<i>Atisa</i>	Indian Mallow	Aconitum Heterophyllum
<i>Āka</i>	Indian Atees	Calotropis Gigantea
<i>Ālūbukhārā</i>	Mudar	Prunus persica
	Peach	

<i>Ānvalā</i>	Emblic Myrobalan	<i>Emblica officinalis</i> Geartn
<i>Ārṭimīciyā</i>	Mugwort, Sagebrush	<i>Artemisia vulgaris/anua</i>
<i>Babūla</i>	Indian Gum Tree	<i>Acacia nilotica</i>
<i>Bacha</i>	Sweet flag	<i>Acorus calamus</i>
<i>Baḍa (Bargada)</i>	Banyan	<i>Ficus bengalensis</i>
<i>Bael (Bilva)</i>	Bengal Qunice, Rutaceae	<i>Aegle Marmelos</i> Correa
<i>Baheḍā</i>	Beleri Myrobalans, Beddanut	<i>Terminali Belrica</i>
<i>Bakāyan</i>	Persian Lilac	<i>Melia Azedarach</i>
<i>Bakuchī</i>	Malaya Tea	<i>Psoralea Corylifolia</i>
<i>Bangobhi (Mayur Śikhā)</i>	Elephantopus Scaber	<i>Celosia Argentea / Celosia Cristata</i>
<i>Banaphsā (Gula- Banaphsā)</i>	Sweet Viola	<i>Viola odorata</i>
<i>Bera (Unnāva)</i>	Indian plum, jujube	<i>Zizyphus Vulgaris</i> lam
<i>Bhallāṭaka</i>	Marking nut	<i>Semecarpus anacardium</i>
<i>Bhānga (Nijamā)</i>	Indian Hemp	<i>Canabis sativa</i>
<i>Bhṛangarāja</i>	Trailing Eclipta	<i>Eclipta Alba</i>
<i>Bhui ānvalā</i>	Bhuiyanvala	<i>Phyllanthus Niruri</i>
<i>Bhārangi</i>	Turk's Turbon	<i>Clerodendrum Serratum</i>
<i>Brāhmī</i>		<i>Hydrocotyle Aisatica</i>
<i>Chakramarda</i>	Foetid cassia/ Ringworm Plant	<i>Cassia tora</i>
<i>(Chākuṇḍa, Chākoḍā)</i>	Yellow champa	<i>Mechelia chammpaca</i>
<i>Champaka</i>	Red Sounders	<i>Pterocarpus Santalinus</i>
<i>Red Chandan</i>	Sandalwood	<i>Santalum album</i> Linn
<i>White Chandana</i>	Amaranth green	<i>Amaranthus viridis</i>
<i>Chaulāi</i>		<i>Piper Officinarum</i>
<i>Chavya</i>	Long leaved Pine	<i>Larix oxidantelis/Pinus longifolia</i>
<i>Chīḍa</i>		

<i>Chirāunji</i>	Cudapah almond seeds	Buchanania Latifolia	Lanzan/
<i>Chirāyatā</i>	Chireta	Swertia Chirata	
<i>Chitraka</i>	White leadwort	Plumbago zeylanica	
<i>Chopachīnī</i>	China-Root	Smiles China	
<i>śītal (cooling) Chīnī</i>	Cubebs, Tailed pepper	Piper Cubeba	
<i>Chuka</i>		Rumexsp	
<i>Chhāḍa-Chhaḍilā</i>	Stone flower	Papever Somniferum/Par	
<i>Chhuhāra</i>	Date-palm		
<i>Dālachīnī</i>	Cinnamom	Cinnamomum Zeylanicum	
<i>Dāru Haldi</i>	Indian Berberry	Berberis Aristata	
<i>Devadāra</i>	Himalayan cedar	Cedrus deodara	
<i>Dhamāsā</i>		Fangonia Arabica	
<i>Dhaniyā</i>	Coriander	Coriandrum sativum	
<i>Dhatūrā</i>	Datura	Datura Stramonium	
<i>Dhāka (Palāśa)</i>	Flame of the Forest	Taub Butea frondosa	
<i>Dhāya</i>		wood Fordia Floribunda	
<i>Durvā</i>	Creeping cynodon	Cynodon dactylon	
<i>Eraṇḍa</i>	Castor oil plant	Ricinus Communis	
<i>Gambhārī</i>	Shivan	Gmelina Arborea	
<i>Ghuḍabacha</i>			
<i>Giloya (Somalatā, Gurūchī)</i>	Tinospora, Guduchi	Tinospora Cordifolia	
<i>Ssmall Gokśarū</i>		Xanthium Strumarium	
<i>Big Gokśarū</i>	Large caltrop	PedaliuM Mure X	
<i>Gorakhamunḍi</i>	East Indian Globe Thistle	Sphaeranthus Indicus	
<i>Gūgala (devDhūpa)</i>	Indian Bedellium	Commiphora Mukul	
<i>Gūlara</i>	Lusterfig	Ficus Glomerata	
<i>Harachura</i>		Viscum album	
<i>Haraḍa (Harītikā)</i>	Chabulic Myrobalans	Terminalia chebula	

<i>Harsingāra</i>	Night Jasmine, Tree of Sorrow	Nyctanthes arbor- tristic
<i>Hāūbera</i>	Juniper berry	Juniperus communis
<i>Ilāyachī</i>	Cardamum Fruit	Elettaria cardamomum
<i>Imalī</i>	Tamarind	Tamarindus Indica
<i>Indrajau</i>	Black Kuchi	Wrightia Tinctoria
<i>Indrāyaṇa</i>	Colocynth, Bitter apple	Citrullus colocynthis
<i>Jalakumbhī</i>	Watercress	Nasturtium Officianale
<i>Jalanīma</i>	Bacopa	Bacopa monieri
<i>Jalapippalī</i>	Purple Lippia	Phyla nodiflora
<i>Jaṭāmānsī (Bālachhaḍa)</i>	Spikenard	Nardostachys jatamansi
<i>Jawāsā</i>	Arabian or Persian Manna	Alhagi Camelorum
<i>Jāvitri</i>	Mace	Arilmyristica Fragens
<i>Jāyaphala</i>	Nutmeg	Myristica Fragens
<i>Jīrā (black)</i>	Purple Flobane	Centratherum Anthelminticum
<i>Jīrā (white)</i>	Cumin seed	Cuminum cyminum
<i>Jīvaka</i>		Microstyl Wallichii
<i>Jīvantī</i>	Dodi	Leptadenia Reticulata
<i>Kachurā</i>	Zedoary	Curcuma Zedoaria
<i>Kalihārī</i>	The Glory Lily	Gloriosa Superba
<i>Kamal Gaṭṭā</i>		Balce Kubati
<i>Kanchanāra</i>	Mountain Ebony	Bauhinia Variegata
<i>Kachanāra-Gūgala</i>		
<i>Kaitha</i>	Wood Apple	Feronia elephantum
<i>Kanera</i>	Sweet scented oleander	Nerium odorum Soland
<i>Kaṇṭakārī (Kaṭerī) small</i>	Fever nut	Solanum Xanthocarpum
<i>Kaṇṭakārī (Kaṭerī) big</i>	Indian Night	Solanum Indicum
<i>Karanja</i>	Indian beech, Pongame	Plngamia Pinnata pierre
<i>Kaṭirā</i>		Saussurea sacra/ Cochlospermum gossypium

<i>Kaṭu</i>	Black Hellebore	Picrorrhiza Kurroa Royle
<i>Kauncha</i>	Cow hedge plant, Lyon Bean	Mucuna Pruiens
<i>Kākaḍāsingī</i>	Crab's claw	Pistacia Lintegerrirna
<i>Kākajanghā</i>		Leea Acquata
<i>Kālamedha</i>	The Creat	Andrographis paniculata
<i>Kāncha-bīja</i>		
<i>Kāsani</i>	Chicory, Endive	Chicorium Intybus
<i>Kāyaphala</i>	Boxmyrtal, Bay-Berry.	Myrica Nagi
<i>Keśara</i>	Saffron	Crocus Sativa
<i>Kevākanda</i>	Kosht	Costus Speciosus
<i>Khasa</i>	Cuscus grass	Veriveria Zizaniodes
<i>Khasakhas (Posta-seeds)</i>	Poppy seeds	
	Catechu	Acacia catechu
<i>Khādira (Khaira)</i>		
<i>Khiraiṭī</i>	(<i>Balā</i> , Countru Mallow	Sida cordifolia Linn.
<i>Kharainṭī</i>)		
<i>Khurāsāni ajavāyana</i>	Henbane	Hyoscyamus Niger
<i>Kuchalā</i>	Nux-vomica, Poison nut	Strychnos nux vomica
<i>Kulanjana</i>	Greater Galangal	Alpinia Galanga
<i>Kuṭakī (Kaṭukī)</i>	Black Hellebore	Picrorrhiza Kurroa
<i>Kūṭaja</i>	Tellicherry Bark	Holarrhena antidysenterica
<i>Kūṭha</i>		Arctium lappa /Saussurea
<i>Laudhra</i>	Symplocos bark	Symplocos resemosa
<i>Lawang</i>	Clove	Syzygium Aromaticum

Table Continued....

<i>Lājawantī (chhui-mui)</i>	Touch me not	Mimosa pudica
<i>Lobāna</i>		
<i>Majīṭha</i>	Indian Madder	Rubia cordifolia
<i>Makhāna</i>	Gorgon Nut puffed kernel	Euryale ferox
<i>Makoya</i>	Black night shade	Solanum Nigrum
<i>Manjiṣṭhā</i>	Myrtle leafs	
<i>Maṇḍūkapaṇṇī</i>	Indian Penwort	Centella Asiatica
<i>Maroḍaphalī</i>		Helicteres Isora
<i>Maulsṛī</i>	Surinam Madler	Mimosa Elengi
<i>Mālkāṅgaṇī (Jyotiṣmati)</i>	Staff tree	Celastrus panivulatus
<i>Meḍhāsingī (Guḍamāra)</i>	Miracle fruit, Small Indian	Gymnema Sylvestre
	Ipecacuanha	
<i>Meṇhadī</i>	Myrtle leafs, Henna	Lawsonia inermis
<i>Meṣasṛaṅgī</i>		
<i>Mocharasa (Semul gum)</i>	Essence of red silk cotton	Salmaia Mallbarica
<i>Mulaiṭhī</i>	Liquoric Root	Glycyrrhizaglabra Bois
<i>Munnakā</i>	Big Resin	
<i>Muṣṭā</i>	Nut grass, Umbrella's edge	<u>Cyperus rotundus</u>
<i>safeda Mūsali</i>	White Musale	Cholorophytum borivilianum
<i>kālī Mūsali</i>	Black musale	Curculigo orchioides
<i>Mūrvā</i>	Sansiviera	Sansevieria Roxburghiana
<i>Nayantārā (Sadābahāra)</i>	Periwinkle	Catharanthes roseus
<i>Nāgakeśara</i>	Cobra's saffron	Mesua Ferrea Linn
<i>Nāgarmothā (Mothā)</i>	Nutgrass	Cyperus Rotundus
<i>Netrabālā</i>		
<i>Nīlakamal</i>	Sacred blue lotus	Nelumbium Speciosum
<i>Nīma</i>	Margosa tree	Melia azedarach

<i>Nimboli</i> or <i>Nimoni</i>	stone/kernal of <i>Nima</i> -fruit	<i>Azadirachta indica</i>
<i>Nirguṇḍī</i>	Indian Privet	<i>Vitex Negundo</i>
<i>Nirmali</i>		
<i>Niśoṭha</i> (white)	Indian Jalap	<i>Operculina terpeethum</i>
<i>Padmākha</i>	Mild Himalayan Cherry	<i>Prunus Puddum</i>
<i>Papari</i> (<i>Nirviśi</i>)		<i>Podophyllum Paltetum</i>
<i>Patanga</i>	Sappan wood	<i>Caesalpinia Sappan</i>
<i>Patarangā</i>		<i>Haematoxylon campechianum</i>
<i>Paṭola</i>	Sespadula	<i>Trichosanthes Dioca</i>
<i>Paṭha</i>	Velvetleaf	<i>Cyclea Peltata/ Cissampelos pareira</i>
<i>Pāḍhal</i>		<i>Stereospermum Suaveolens</i>
<i>Pāna</i>	Betel Leaf	<i>Piper betle</i>
<i>Pilo Jogido</i>	Cancer root	<i>Cistanche tubulosal</i>
<i>Pippali</i>	Long Pepper	<i>Piper longum Linn.</i>
<i>Pittapāpaḍā</i>	Fine Leaved Fumitarie	<i>Fumaria indiacā</i>
<i>Pīpala</i>	Poplar-leaf Fig Tree	<i>Ficus religiosa</i>
<i>Pohakara</i>		<i>Saussurea lappa</i>
<i>Praśniparṇi</i>		<i>Uraria Picta Desv.</i>
<i>Priyāngu</i>	Flowers Priyangu	<i>Callicarpa macrophylla</i>
<i>Pudinā</i>	Spearmint	<i>Mintha spicata</i>
<i>Punarnavā</i>	Hogweed Horsse Purslane	<i>Boerhana diffusa</i>
<i>Purṭuka</i> (<i>Nakhunā</i>)		<i>Astragalus Tribuloids</i>
<i>Puṣkara</i>		<i>Iris Germanica/Inula Racemosa</i>
<i>Puṣṭiparṇi</i>		
<i>Rasautā</i>	Extract of Indian Berberies	<i>Extractum Berbris</i>
<i>Rāi</i>	Brown mustard	<i>Brassica Juncea</i>
<i>Rāsnā</i>	Rasna	<i>Pluchea Lanceolata</i>
<i>Revāṇḍi-chīnī</i> (<i>Arachu</i>)		<i>Rheum emodi</i>
<i>Rudanti</i>		<i>Capparis Moon ii wigh</i>

<i>Rudravanti</i>		<i>Cressa cretica</i>
<i>Sahadevī</i>	Fleabane	<i>Vernonia Cinereal</i>
<i>Sahijana (Sahajana)</i>	Drumstick	<i>Moringa Pterygosperma</i>
<i>Salāi gum</i>	Gum resin of <i>Boswellia</i>	
<i>Saptaparṇa</i>	Devil's tree, Dita	<i>Alstonia Scholaris</i>
<i>Saptarangī</i>		<i>Salacia chinesis</i>
<i>Sarpagandhā</i>	Serpentina	<i>Rauwolfia serpentina</i>
<i>Saunfa</i>	sweet Aniseed, Fennel	<i>Anethum Foeniculum</i>
<i>Sālam miśrī/Bhunjātaka</i>	Salep orchid	<i>Orchis Masculia</i>
<i>Sārivā</i>	Indian sarsaparilla	<i>Hemidesmus indicus</i>
<i>Sāṭhī</i>	Spiked ginger lily	<i>Hedychium Spicatum</i>
<i>Sitāphala</i>	Custard apple	<i>Annona squamosa</i>
<i>Sonṭha</i>	Dry Ginger	<i>Zingiber officinale</i>
<i>Sugandhabālā</i>	Indian Valerian	<i>Tagar Valeriana Wallichii</i>
<i>Sugandhakokilā</i>	Safole rich aromatic plant	<i>Cinnamomum</i> <i>Glaucescens</i>
<i>Supārī</i>	Betal Nut Palm	<i>Areca catechu</i>
<i>Suranjāna</i>	Colchicicum	<i>Colchicum Luteum</i>
<i>Swaranakśiri</i>	Mexican Poppy	<i>Argemone mexicana</i>
<i>Śankhiyā</i>	Arsenic extract	
<i>Śarpunkhā</i>	Wild Indigo	<i>Tephrosia Purpurea</i>
<i>Śankhpuṣpī</i>	Shankh Pushpi	<i>Convolvulus pluricaulis</i>
<i>Śatāvara</i>	Asparagus	<i>Asparagus Racemosus</i>
<i>Śāla</i>	The sal tree	<i>Shorea Robusta</i>
<i>Śālamalī (Semar)</i>	Red silk cotton tree	<i>Salmalia Mallbarica</i>
<i>Śāliparṇī</i>	Sarivan	<i>Desmodium Gangeticum</i>
<i>Śilājīta</i>	Mineral Pitch	<i>Asphaltum</i>
<i>Śyonaka (Sonapāṭhā)</i>	Tiutun	<i>Oroxylum Indicum</i>
<i>Tagar</i>	Moonbeam/Ind. Roseberry	<i>Ervatamia coronaria</i>
<i>Tālamakhānā</i>	Long Leaved Barleria	<i>Asteracantha longifolia</i>
<i>Tālisa-patra</i>	Himalayan yew	<i>Taxus baccata</i>

<i>Tejapatra</i>	Tamala	Cinnamomum tamala
<i>Tejaphala (Tumbaru)</i>	Tomar seed, Toothache	Nees
		Zanthoxylum
<i>Til</i>	Sesamum seeds	Acanthopodium
<i>Timura</i>		Sesamum indicum
<i>Trāyamāṇa</i>		XathoxylumAcanthopodium
<i>kapūra-Tulasī</i>	Common Sweet basil	Gentiana Kurro
<i>Tuvaraka (Chalmogarā)</i>		Ocium basilicum Linn.
<i>Ulaṭakamabal</i>	Devil's Cotton	Hydnocarpus laurifolia
<i>Unṭakaṭārā</i>		Abroma Augusta
<i>Uṭangana</i>		
<i>Vana Tulasī</i>	Black Basil	Blepharis Edulis
<i>Varuṇa</i>	Varuna	Ocium Canum Sines
<i>Vāsā (Aḍūsā)</i>	Malabarnut	Crataeva Nurvala
<i>Vāyavidang</i>		Adhatoda vasica
<i>(Bāyaviḍang, Viḍanga)</i>	Barbreng	
<i>Vidārikanda</i>	Saral	Embellia Ribes Burn
<i>Vidhārā</i>	Elephant Creeper	Pueraria Tuberosa
<i>Vijayā (bhānga)</i>	Indian Hemp	Argyreia Speciosa /Nervosa
<i>Vijayasāra</i>	essence of Indian Kino	
<i>Vinaulā</i>	Cotton seed	Cannabis Sativa, Linn
<i>Yavakṣāra</i>	A carbonate of Potash	Gossypium Herbaceum
		Potasii carbonas



Other Important Terminology (with English meaning):

Chhāla (= bark skin); *Mūla* (= root); *Patra* (= leaf);

Sendhā Namaka (= Minearal Salt); *Kālā Namaka* (= Red or Rock Salt); *Sādā Namaka* (= Common Salt);

Kāntalauha Bhasm (= Ayurvedically processed 'ash' of a special kind of ferrous ore).

The following are Ayurvedic preparations of more than one herb/plant.

Daśamūla, *Isapgola*, *Trikaṭu*, *Triphalā*

These are easily available in Herbal Pharmacies. In case one is interested, these can be prepared at home as well (*c.f.* details in any standard herbal medicine book, e.g. Ref. no. [14-15] here).

